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Solar Energy Alternatives for Agriculture January 1991-April 1993

TITLE: Solar Energy Alternatives for Agriculture, January 1991-April 1993

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Reference and User Services Branch
National Agricultural Library

PUBLICATION DATE: May 1993

SERIES: QB 93-33

UPDATES: QB 91-84

NAL Call no.: aZ5071.N3 no.93-33

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ISSN: 1052-5378

United States Department of Agriculture
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Solar Energy Alternatives for Agriculture
January 1991 - April 1993

Quick Bibliography Series: QB 93-33
Updates QB 91-84

354 citations in English from AGRICOLA

Susan Chapman
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May 1993

National Agricultural Library Cataloging Record:

Chapman, Susan
Solar energy alternatives for agriculture, January 1991-
April 1993.
(Quick bibliography series ; 93-33)
1. Solar energy in agriculture. I. Title.

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Article title.	
Author. Place of publication: Publisher. Journal Title.	
Date. Volume (Issue). Pages. (NAL Call Number).	

Example:

1	NAL Call No.: DNAL 389.8.SCH6
Morrison, S.B. Denver, Colo.: American School Food Service Association. School foodservice journal. Sept 1987. v. 41 (8). p.48-50. ill.	

BOOK:

Citation #	NAL Call Number
Title.	
Author. Place of publication: Publisher, date. Information on pagination, indices, or bibliographies.	

Example:

1 NAL Call No.: DNAL RM218.K36 1987
Exploring careers in dietetics and nutrition.
Kane, June Kozak. New York: Rosen Pub. Group, 1987.
Includes index. xii, 133 p.: ill.; 22 cm. Bibliography:
p. 126.

AUDIOVISUAL:

Citation # NAL Call Number
Title.
Author. Place of publication: Publisher, date.
Supplemental information such as funding. Media format
(i.e., videocassette): Description (sound, color, size).

Example:

1 NAL Call No.: DNAL FNCTX364.A425 F&N AV
All aboard the nutri-train.
Mayo, Cynthia. Richmond, Va.: Richmond Public Schools,
1981. NET funded. Activity packet prepared by Cynthia
Mayo. 1 videocassette (30 min.): sd., col.; 3/4 in. +
activity packet.

SOLAR ENERGY ALTERNATIVES FOR AGRICULTURE

SEARCH STRATEGY

1. S SOLAR/DE, TI, ID
2. S (ENERGY OR POWER? OR SYSTEM? OR HYDROGEN OR COLLECTOR?
OR PANEL? OR GREENHOUSE?)/DE, TI, ID
3. S S1 AND S2
4. S S1 AND (HEAT? OR AIR()CONDIT? OR DRYING OR DRYER? ? OR
CURING OR CURED OR OVEN? ? OR COOKER? ?)/DE, TI, ID
5. S PHOTOVOLTAIC?/DE, TI, ID
6. S S3 OR S4 OR S5
7. S SH=(P110 OR P120 OR P130)
8. S S S6 AND S7
9. S S8/ENG
10. S UD=9101:9999
11. S S9 AND S10
12. S S11 NOT SPACE()FLIGHT

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1 NAL Call. No.: TJ810.A1S6
The absorption chiller in large scale solar pond cooling
design with condenser heat rejection in the upper convecting
zone.
Tsilingiris, P.T.
Tarrytown, N.Y. : Pergamon Press; 1992 Jul.
Solar energy v. 49 (1): p. 19-27; 1992 Jul. Includes
references.

Language: English

Descriptors: Solar collectors; Ponds; Coolers; Design;

Absorption; Chilling; Instrumentation; Mathematical models;
Condensers; Equations; Estimated costs

2 NAL Call. No.: TJ810.A1S6
Accuracy of the European solar water heater test procedure. 1.
Measurement errors and parameter estimates.
Bourges, B.; Rabl, A.; Leide, B.; Carvalho, M.J.; Collares-
Pereira, M. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (1): p. 1-16; 1991. Includes references.

Language: English

Descriptors: Europe; Solar energy; Water; Heaters; Performance
testing; Accuracy; Solar collectors; Ventilation; Models;
Equations; European communities

3 NAL Call. No.: TJ810.A1S6
Accuracy of the European solar water heater test procedure. 2.
Prediction of long-term performance.
Bourges, B.; Rabl, A.; Carvalho, M.J.; Collares-Pereira, M.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (1): p. 17-25; 1991. Includes references.

Language: English

Descriptors: Europe; Solar energy; Water; Heaters; Performance
testing; Long term experiments; Errors; Prediction; Accuracy;
Solar collectors; Calculation; Equations

4 NAL Call. No.: S494.5.E547
Agricultural applications of photovoltaic systems.
Ratajczak, A.F.; Kaszeta, W.J.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 115-155; 1991. In the
series analytic: Energy in World Agriculture / edited by B.F.
Parker. Includes references.

Language: English

Descriptors: Agriculture; Solar energy; Electric power;
Photovoltaic cells; Systems; Design; Dairy farming; Poultry
farming; Agricultural production; Pumps; Irrigation; Water
management; Refrigeration

5 NAL Call. No.: TJ810.A54
Alternative to the air vent, air purger, and expansion tank in
closed loop collector systems.
Mumma, S.A.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 170-173; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy;
Solar collectors; Heat transfer; Operation

6 NAL Call. No.: TP363.D7
Analysis of a geodesic dome solar fruit dryer.
Goswami, D.Y.; Lavania, A.; Shahbazi, S.; Masood, M.
New York, N.Y. : M. Dekker; 1991.
Drying technology v. 9 (3): p. 677-691; 1991. Includes
references.

Language: English

Descriptors: Grapes; Solar drying; Solar energy; Structural design; Structures; Forced air drying; Convection

7 NAL Call. No.: TJ810.A1S6
Analysis of collector-storage buidling walls using phase-change materials. Ghoneim, A.A.; Klein, S.A.; Duffie, J.A. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 237-242; 1991. Includes references.

Language: English

Descriptors: Solar collectors; Solar heating; Latent heat; Storage; Buildings; Walls; Building materials; Performance; Specific heat; Thermal properties; Models

8 NAL Call. No.: TJ810.A1S6
Analysis of experimental solar radiation data for Rio de Janeiro, Brazil. Cavalcanti, E.S.C. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 231-235; 1991. Includes references.

Language: English

Descriptors: Brazil; Solar radiation; Measurement; Data analysis; Solar heating; Heating systems

9 NAL Call. No.: 80 AC82
Analysis of nocturnal microclimate in single skin cold greenhouses in Mediterranean countries. Manera, C.; Picuno, P.; Scarascia Mugnozza, G. Wageningen : International Society for Horticultural Science; 1990 Jul. Acta horticulturae (281): p. 47-56; 1990 Jul. Paper presented at the "Second Workshop on Greenhouse Construction and Design," September 4-7, 1989, Montpellier, France. Includes references.

Language: English

Descriptors: Mediterranean countries; Greenhouses; Covers; Heat exchange; Microclimate; Night temperature; Hides and skins; Solar energy; Mathematical models

Abstract: So as to be able to evaluate the behaviour of cold greenhouses during the night in Mediterranean area, a representative mathematical pattern of nocturnal energetic balance of single plastic skin greenhouses is proposed. Such mathematical pattern allowed a forecasting analysis of the thermal level inside the greenhouse for short time intervals; the results obtained in this way were compared to the measured values of a small frame type greenhouse without any artificial energetic contribution. A special attention was given to the elaboration of temperature datas during the clear sky nights in the winter, whereby the thermal gradient inversion between inside and outside occurs.

10 NAL Call. No.: TJ810.A1S6
Analysis of the incidence angle of the beam radiation on CPC. Pinazo, J.M.; Canada, J.; Arago, F. Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 175-179; 1992 Sep. Includes references.

Language: English

Descriptors: Solar collectors; Angle of incidence; Mathematics; Solar radiation

11 NAL Call. No.: TJ810.A1S6
Analysis of the summer ambient temperatures for cooling purposes. Tselepidaki, I.; Santamouris, M.; Melitsiotis, D. Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 197-204; 1993. Includes references.

Language: English

Descriptors: Greece; Summer; Environmental temperature; Solar energy; Cooling systems

12 NAL Call. No.: TJ810.A1S6
Analysis of the system CaO-CO₂-H₂O for storage of solar thermal energy. Criado, J.M.; Macias, M.; Macias-Machin, A. Tarrytown, N.Y. : Pergamon Press; 1992 Aug.
Solar energy v. 49 (2): p. 83-86; 1992 Aug. Includes references.

Language: English

Descriptors: Solar energy; Thermal energy; Calcium hydroxide; Carbonation; Calcium oxide; Carbon dioxide; Pressure

13 NAL Call. No.: S494.5.E547
Animal housing: solar application. DeShazer, J.A.; Bodman, G.R. Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 233-253; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Animal housing; Solar heating; Solar energy; Heating systems; Livestock; Ventilation; Solar collectors

14 NAL Call. No.: TJ810.A1S6
Annual collectible energy of a two-axis tracking flat-plate solar collector. Attalage, R.A.; Reddy, T.A. Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 151-155; 1992. Includes references.

Language: English

Descriptors: U.S.A.; Australia; Solar collectors; Solar energy; Correlation; Meteorological observations

15 NAL Call. No.: 500 N484
An application of mathematical modeling to solar energy research. Braun, M. New York, N.Y. : The Academy; 1990.
Annals of the New York Academy of Sciences v. 607: p. 1-5; 1990. In the series analytic: Mathematical vistas: papers from the Mathematics Section / edited by J. Malkevitch and D. McCarthy. Includes references.

Language: English

Descriptors: Solar energy; Applied research; Mathematical models; Ruthenium

16 NAL Call. No.: TD478.D4
The application of solar energy for large-scale seawater

desalination. Hoffman, D.
Amsterdam : Elsevier Science Publishers, B.V.; 1992 Dec.
Desalination v. 89 (2): p. 115-183; 1992 Dec. Includes
references.

Language: English

Descriptors: Israel; Solar energy; Application; Sea water;
Desalinization

17 NAL Call. No.: TJ810.A1S6
Application of transparent insulation materials in improved
flat-plate collectors and integrated collector storages.
Rommel, M.; Wagner, A.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 371-380; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Insulating
materials; Integrated systems; Storage; Collectors

18 NAL Call. No.: TJ810.A1S6
Aqueous propylene-glycol concentrations for the freeze
protection of thermosyphon solar energy water heaters.
Norton, B.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 375-382; 1991. Includes
references.

Language: English

Descriptors: England; Solar energy; Water; Heaters; Thermal
properties; Performance; Heat transfer; Propylene glycol;
Solutions; Dynamic models; Concentration; Freezing;
Protection; Simulation models; Heat production

19 NAL Call. No.: TJ810.A54
Assessing the future value of photovoltaics for utility
applications in Austin, Texas.
Hoffner, J.E.; Panico, D.C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 247-252; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Texas; Solar energy; Photovoltaic cells; Public
utilities

20 NAL Call. No.: 290.9 AM32P
Assessment of solar energy potential in agriculture.
Parker, B.F.; Lindley, M.R.; Benson, F.J.; Harrison, W.;
Peterson, W.H.; Clark, R.N.
St. Joseph, Mich. : The Society; 1990.
Paper - American Society of Agricultural Engineers (90-5534):
10 p.; 1990. Paper presented at the "1990 International Winter
Meeting sponsored by the American Society of Agricultural
Engineers," December 18-21, 1990, Chicago Illinois. Includes
references.

Language: English

Descriptors: Solar energy; Wind power; Thermal energy;
Assessment; Economic analysis

21 NAL Call. No.: TJ810.A54
Assessment of the potential application of solar steam
sterilizer in Indonesia.
Mustafa, R.; Soedarno, J.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 347-350; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Indonesia; Solar energy; Steam sterilization

22 NAL Call. No.: TJ810.A156
Attached sunspace--sensitivity factors.
Baleynaud, J.M.; Petit, M.; Trombe, A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (3): p. 149-166. ill; 1991. Includes
references.

Language: English

Descriptors: Buildings; Thermal properties; Solar radiation;
Simulation models; Energy conservation

23 NAL Call. No.: TJ810.A54
Auger electron spectroscopy of the black chrome solar
selective coatings. Lee, K.D.; Chea, Y.H.; Auh, P.C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 325-329; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar collectors; Coatings

24 NAL Call. No.: TJ810.A54
Automated manufacturing of integrated photovoltaic cell-
mounting assemblies for linear fresnel lens concentrator
modules.
Fitzgerald, M.; Vanecek, D.; Jackson, M.C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 311-313; 1990. Meeting held March
19-22, 1990, Austin, Texas.

Language: English

Descriptors: Photovoltaic cells; Automation; Manufacture

25 NAL Call. No.: GB611.A3
Availability of solar energy with different tracking modes in
the Western Oases of Egypt.
Mosallam Shaltout, M.A.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v.
5: p. 289-306; 1991. In series analytic: Desert development:
proceedings of the Second International Desert Development
Conference held on January 25-31, 1987, in Cairo, Egypt /
edited by A. Bishay and H. Dregne. Includes references.

Language: English

Descriptors: Egypt; Solar radiation; Solar energy; Water;
Pumps

26 NAL Call. No.: GB611.A3
Availability of wind energy in a typical desert location in Egypt. Mobarak, A.; Safwat, H.; Hamid, A.A.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v. 5: p. 167-190; 1991. In series analytic: Desert development: proceedings of the Second International Desert Development Conference held on January 25-31, 1987, in Cairo, Egypt / edited by A. Bishay and H. Dregne. Includes references.

Language: English

Descriptors: Egypt; Wind power; Deserts; Solar energy

27 NAL Call. No.: TJ810.A54 A
basic curriculum for high school and college solar laboratory experience. Thompson, W.H.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 149-152; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Solar energy; High school curriculum; College curriculum

28 NAL Call. No.: 421 J828
Battery-powered, electrocuting trap for stable flies (Diptera: Muscidae). Pickens, L.G.
Lanham, Md. : The Entomological Society of America; 1991 Nov.
Journal of medical entomology v. 28 (6): p. 822-830; 1991 Nov.
Includes references.

Language: English

Descriptors: Stomoxys calcitrans; Electrocuting traps; Insect control; Solar energy; Batteries; Electrocuting grids; Experimental design

Abstract: A solar-charged, battery-powered, electrocuting grid was combined with a white plywood base to make a portable, pulsed-current, pest-electrocuting device that attracted and killed stable flies, *Stomoxys calcitrans* (L.), outdoors. The grid was powered once every 1-2 s by a 0.016-s pulse of 60-Hz alternating current of 4 mA and 9,500 V. Power was turned off at night by a photoresistor. The trap functioned continuously for 14 d with an uncharged 12-V, 18A/h lawn-tractor battery and killed as many as 4,000 flies per day. Solar cells were used to charge a single 12-V battery continuously that operated 12 grids for a period of 90 d. The grid did not short circuit for any length of time even during heavy rainstorms or when large insects were killed. The incorporation of moire patterns and the utilization of the correct size, orientation, and placement of wires made the electrocuting grid itself attractive to stable flies. The traps were spaced at distances of up to 120 m from the battery and pulse circuit. The electrocuting traps were more effective than sticky traps and avoided the problems associated with chemicals. They are well suited for use around calf pens, dog kennels, or large animal shelters.

29 NAL Call. No.: TJ810.A54
Biaxial incidence angle modifiers obtained from three dimensional ray tracing. Duff, W.S.; Menon, A.; Knappmiller, K.
Boulder, Colo. : The Society; 1992.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 215-219; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Solar radiation

30 NAL Call. No.: TJ810.A1S6

Building energy estimation by fast simulation.

Murdoch, N.; Penman, J.M.

Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 47 (6): p. 447-455; 1991. Includes references.

Language: English

Descriptors: Solar energy; Buildings; Thermal properties; Calculation; Simulation models; Weather data

31 NAL Call. No.: TJ810.A54

The building envelope and photovoltaic power as tools for peak-shaving in hot-arid climates.

Grocoff, P.N.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 193-198; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Photovoltaic cells; Cooling systems; Energy consumption; Arid regions

32 NAL Call. No.: TJ810.A54

Calcium carbonate scaling in solar domestic hot water systems.

Burch, J.; Egrican, N.; Carlisle, N.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 261-266; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Water; Households; Calcium carbonate

33 NAL Call. No.: TJ810.A1S6

Calculation of monthly average global solar radiation on horizontal surfaces using daily hours of bright sunshine.

Halouani, N.; Nguyen, C.T.; Vo-Ngoc, D.

Tarrytown, N.Y. : Pergamon Press; 1993.

Solar energy v. 50 (3): p. 247-258; 1993. Includes references.

Language: English

Descriptors: Canada; Solar radiation; Averages; Calculation; Sunshine hours; Solar energy; Systems; Models

34 NAL Call. No.: TJ810.A1S6

Calculation of shading factor for a collector field.

Elsayed, M.M.; Al-Turki, A.M.

Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 47 (6): p. 413-424; 1991. Includes references.

Language: English

Descriptors: Solar collectors; Shading; Calculation;
Equations; Position

35 NAL Call. No.: TJ810.A1S6
Calculation procedure for collectors with a honeycomb cover of
rectangular cross section.
Platzer, W.J.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 381-393; 1992. Includes
references.

Language: English

Descriptors: Solar collectors; Optical properties; Radiation;
Heat transfer; Models

36 NAL Call. No.: TJ810.A1S6
Caprolactam production by direct solar flux.
Talukdar, J.; Wong, E.H.S.; Mathur, V.K.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 165-171; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Utilization; Chemicals; Production;
Oximes

37 NAL Call. No.: TJ810.A1S6
Case study of a central-station grid-intertie photovoltaic
system with V-trough concentration.
Freilich, J.; Gordon, J.M.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (5): p. 267-273; 1991. Includes
references.

Language: English

Descriptors: Israel; Solar energy; Energy conversion;
Photovoltaic cells; Design; Performance

38 NAL Call. No.: TJ810.A1S6
Central-station solar photovoltaic systems: field layout,
tracker, and array geometry sensitivity studies.
Gordon, J.M.; Wenger, H.J.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 211-277; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Systems;
Design; Field tests; Layout; Optical tracking; Calculation

39 NAL Call. No.: TJ810.A1S6
CESA-1 project capabilities for high temperature material
testing: application to the HERMES Wing Leading Edge tests.
Rosa, F.; Valverde, A.; Aranda, J.M.; Aranda, J.; Rodriguez,
J. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (3): p. 175-182. ill; 1991. Includes
references.

Language: English

Descriptors: Spain; Solar energy; Energy conversion; Systems;

Materials; Testing

40 NAL Call. No.: TJ810.A1S6
CESA-1 thermal storage system evaluation.
Andujar, J.M.; Rosa, F.; Geyer, M.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (5): p. 305-312; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy;
Storage; Evaluation; Melting; Salts; Tanks

41 NAL Call. No.: TJ810.A1S6
Characteristics, design implications, and applicability of
passive solar heating systems for buildings.
Givoni, B.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (6): p. 425-435; 1991. Includes
references.

Language: English

Descriptors: Solar heating; Heating systems; Buildings;
Performance; Architecture; Design; Application; Climatic zones

42 NAL Call. No.: TJ810.A54
The characteristics of intermittent solar powered aqua-ammonia
absorption refrigeration system.
Singh, B.; Prakash, R.; Gupta, C.P.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 509-518; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Refrigeration; Cooling systems

43 NAL Call. No.: TJ810.A1S6
Characteristics of solar radiation in the Sahel. Case study:
Niamey, Niger. Frangi, J.P.; Yahaya, S.; Piro, J.
Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 159-166; 1992 Sep. Includes
references.

Language: English

Descriptors: Niger; Solar radiation; Dust storms; Visibility;
Insolation; Climatic factors; Equations; Solar energy; Energy
consumption

44 NAL Call. No.: TJ810.A1S6
Chemical reactions in a solar furnace. 2. Direct heating of a
vertical reactor in an insulated receiver: experiments and
computer simulations. Levy, M.; Levitan, R.; Meirovitch, E.;
Segal, A.; Rosin, H.; Rubin, R. Tarrytown, N.Y. : Pergamon
Press; 1992.
Solar energy v. 48 (6): p. 395-402; 1992. Includes
references.

Language: English

Descriptors: Solar energy; Storage; Methane; Conversion;
Simulation models

45 NAL Call. No.: TJ810.A1S6
Classification of direct irradiation days in view of energetic applications. Louche, A.; Notton, G.; Poggi, P.; Simonnot, G. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 255-259; 1991. Includes references.

Language: English

Descriptors: Solar radiation; Solar energy; Weather data; Mediterranean climate; Equations

46 NAL Call. No.: TJ810.A54 A
comparison of solar ponds and flat plate solar collectors for meeting a variety of load types. Cler, G.L.; Newell, T.A. Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 351-356; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar collectors; Salt; Gradients; Ponds

47 NAL Call. No.: TJ810.A1S6 A
comparison of ultraviolet radiation measured at an arctic and an alpine site. Ambach, W.; Blumthaler, M.; Wendler, G. Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 121-126; 1991. Includes references.

Language: English

Descriptors: Switzerland; Alaska; Ultraviolet radiation; Measurement; Solar energy; Meteorological observations; High altitude; Arctic regions; Mountain areas; Instrumentation; Models; Snow cover; Reflectance

48 NAL Call. No.: TJ810.A54
The competitiveness of photovoltaics in electric utility supply side planning. Sim, S.R.; Waters, S.S. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 103-110; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: U.S.A.; Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Public utilities; Distribution; Systems; Competitive ability; Analysis; Prices

49 NAL Call. No.: TJ810.A1S6
Computational methods for passive solar simulation. Carter, C. Elmsford, N.Y. : Pergamon Press; 1990.
Solar energy v. 45 (6): p. 379-384; 1990. Includes references.

Language: English

Descriptors: Solar energy; Buildings; Solar heating; Simulation models; Equations

50 NAL Call. No.: TJ810.A1S6
Concentration difference heat pump using fusion and freezing processes. Mulyono, P.; Honda, T.; Kanzawa, A.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 177-184; 1992. Includes references.

Language: English

Descriptors: Heat pumps; Cold; Fluids; Generators;
Refrigeration; Freezing; Membranes; Distillation;
Concentration; Separation; Solar energy; Utilization

51 NAL Call. No.: TJ810.A1S6
Conditional probabilities of daily relative sunshine data and the dependence on the weather of the previous day.
Zabara, K.; Yianoulis, P.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 421-427; 1992. Includes references.

Language: English

Descriptors: Sunshine hours; Probability analysis;
Calculation; Weather data; Prediction; Solar radiation;
Efficiency; Solar energy; Systems

52 NAL Call. No.: TJ810.A1S6
Conditioning of utilizable energy by a thermostatic control of the thermosyphonic flow in solar systems.
Sokolov, M.; Arbel, A.
Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 181-189; 1992 Sep. Includes references.

Language: English

Descriptors: Solar energy; Systems; Solar heating; Water;
Thermostats; Flow; Control; Installations; Simulation;
Techniques; Operation; Equations

53 NAL Call. No.: TJ810.A1S6
Configuration factors of various elements of a shielded collector field. Elsayed, M.M.; Al-Beirutty, M.H.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (2): p. 107-121; 1992. Includes references.

Language: English

Descriptors: Solar collectors; Models; Prediction; Solar radiation; Dimensions; Calculation; Accuracy

54 NAL Call. No.: 80 AM329
Conservation in the greenhouse. 1. Solar and propane heating.
Mann, J.
West Palm Beach, Fla. : The Society; 1991 Mar.
American Orchid Society bulletin v. 60 (3): p. 220-221; 1991 Mar.

Language: English

Descriptors: Florida; Greenhouses; Propane; Heaters

55 NAL Call. No.: TJ810.A54
Contemporary issues in solar pond research.
Hull, J.R.

Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 397-400; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Ponds; Research

56 NAL Call. No.: TJ810.A1S6
Control of a solar pond.
Sherman, B.S.; Imberger, J.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 71-81; 1991. Includes references.

Language: English

Descriptors: Australia; Solar collectors; Ponds; Heat
production; Storage; Electricity generators

57 NAL Call. No.: TJ810.A1S6
Correlating beam radiation with sunshine duration.
Hussain, M.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 145-149; 1992. Includes
references.

Language: English

Descriptors: India; Solar radiation; Sunshine hours; Solar
collectors; Meteorological observations

58 NAL Call. No.: TJ810.A54
Cost and performance predictions for advanced active solar
concepts. Christensen, C.; Hancock, E.; Barker, G.; Kutscher,
C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 275-280; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Water; Heating systems; Cost
analysis; Thermal analysis

59 NAL Call. No.: TJ810.A1S6
C.R.S. receiver and storage systems evaluation.
Castro, M.; Presa, J.L.; Diaz, J.; Peire, J.; Baker, A.F.;
Faas, S.E.; Radosevich, L.G.; Skinrood, A.C.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 197-207; 1991. Includes
references.

Language: English

Descriptors: Spain; California; Solar energy; Heat; Storage;
Systems; Design; Performance

60 NAL Call. No.: GB611.A3
Demonstration and field testing of photovoltaic technologies
in some applications having potential for use in Egypt.
Botros, R.; Borgo, P.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v.
5: p. 273-287; 1991. In series analytic: Desert development:
proceedings of the Second International Desert Development

Conference held on January 25-31, 1987, in Cairo, Egypt /
edited by A. Bishay and H. Dregne.

Language: English

Descriptors: Egypt; Water; Desalinization; Energy sources;
Photovoltaic cells

61 NAL Call. No.: TJ810.A156

Dependence of sound velocity on salinity and temperature in
saline solutions. Kleis, S.J.; Sanchez, L.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 371-375; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Solar collectors; Ponds; Saline
water; Salinity; Distribution; Temperature; Ultrasonics;
Measurement; Equations

62 NAL Call. No.: TJ810.A54

Desiccant cooling using unglazed transpired solar collectors.
Pesaran, A.A.; Wipke, K.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 202-208; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Cooling systems;
Desiccants; Heat; Performance; Design; Buildings; Cost
analysis

63 NAL Call. No.: TJ810.A54

Design and operation of the Luz parabolic trough solar
electric generating plants.
Kearney, D.W.; Price, H.; Jensen, C.
Boulder, Colo. : The Society; 1989.
Proceedings of the ... Annual Meeting, American Solar Energy
Society, Inc. p. 56-61. ill; 1989. Meeting held June 19-22,
1989, Denver, Colorado. Includes references.

Language: English

Descriptors: California; Solar energy; Electricity generators;
Troughs; Solar collectors; Design; Performance; Reliability

64 NAL Call. No.: TJ810.A54

Design and performance of solar water heaters with heat pipes.
Chun, W.; Kwak, H.Y.; Kang, Y.H.; Jeon, M.S.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 129-134; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Korea republic; Solar energy; Water; Heaters;
Pipes; Systems; Design; Performance; Solar collectors

65 NAL Call. No.: TJ810.A54

Design aspects of an 80-MW Solar Electric plant.
Kearney, D.; Jaffe, D.; Daniel, L.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar

Energy Society, Inc. p. 519-525; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Solar energy; Electricity; Power; Design

66 NAL Call. No.: S494.5.E547

Design of solar-heated forage dryers.

Parker, B.F.

Amsterdam : Elsevier; 1991.

Energy in world agriculture v. 4: p. 315-334; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Fodder crops; Solar drying; Solar heating; Forage dryers; Design

67 NAL Call. No.: TJ810.A54

Design optimization of a two-phase passive solar water heater.

Davidson, J.H.; Walker, H.A.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 267-274; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Water; Heating systems; Design

68 NAL Call. No.: TJ810.A54

Development and assessment of a solar energy data base for

Austin, Texas. Hadjimarkos, C.P.; Vliet, G.C.; Hunn, B.D.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 449-454; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Texas; Solar energy; Databases

69 NAL Call. No.: TJ810.A54

Development, deployment, and startup of the 2,000 sq.m. linear fresnel lens photovoltaic concentrator system at 3M/Austin (Texas).

O'Neill, M.J.; Walters, R.R.; Perry, J.L.; McDanal, A.J.;

Jackson, M.C.; Spears, D.H.; Hesse, W.J.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 241-245; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Texas; Solar energy; Power; Photovoltaic cells

70 NAL Call. No.: TJ810.A1S6

Development of a magnetically levitated density meter for salt gradient solar ponds.

Abdel-Messih, R.N.; Newell, T.A.

Tarrytown, N.Y. : Pergamon Press; 1992 Jul.

Solar energy v. 49 (1): p. 1-8; 1992 Jul. Includes references.

Language: English

Descriptors: Solar energy; Energy conservation; Ponds; Salts; Gradients; Liquids; Density; Measurement; Instrumentation; Magnetic properties; Construction; Calibration

71 NAL Call. No.: TJ810.A54
Development of the University of Massachusetts Central Solar Heating Plant with seasonal storage: geotechnical and engineering design status. Breger, D.S.; Lally, M.J.; El-Hasnaoui, H.; Hubbell, J.E.; Gaasch, W.H.; Lutenegger, A.J.; Sunderland, J.E.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 145-150; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Massachusetts; Solar energy; Energy conversion; Thermal energy; Heating systems; Energy; Storage; Site factors; Clay soils; Soil properties; Engineering; Design; Project implementation; Solar collectors

72 NAL Call. No.: TJ810.A156
Differential angstrom model for predicting insolation from hours of sunshine. Yeboah-Amankwah, D.; Agyeman, K.
Elmsford, N.Y. : Pergamon Press; 1990.
Solar energy v. 45 (6): p. 371-377; 1990. Includes references.

Language: English

Descriptors: Papua new guinea; Solar radiation; Solar energy; Sunshine hours; Insolation; Prediction; Models; Differentiation; Regression analysis; Equations; Accuracy

73 NAL Call. No.: TJ810.A156
Directional-hemispherical solar transmittance data for plastic honeycomb-type structures.
Platzer, W.J.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 359-369; 1992. In the special issue: Transparent Insulation / edited by A. Goetzberger. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Solar radiation; Transmittance; Simulation models

74 NAL Call. No.: HD9681.U62D57 1992
Directory of the U.S. solar thermal industry.. Directory of the US solar thermal industry, [2nd ed.].
Solar Energy Industries Association
Washington, D.C. : Solar Energy Industries Association,; 1992.
16 p. : ill. ; 28 cm. Cover title. "March, 1992"--P. 2.

Language: English

Descriptors: Solar energy industries; Solar thermal energy

75 NAL Call. No.: TJ810.A156
Dynamic effects of bang-bang control on the thermal performance of walls of various construction.
Burns, P.J.; Han, K.; Winn, C.B.
Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 46 (3): p. 129-138; 1991. Includes references.

Language: English

Descriptors: Buildings; Solar heating; Cooling systems; Solar energy; Walls; Building construction; Thermal properties; Energy consumption; Air temperature; Weather data; Models

76 NAL Call. No.: TJ810.A1S6

Dynamic investigations of the slow recrystallization of incongruently melting Glauber salt.

Stockerl, R.; Kohler, H.H.

Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 46 (3): p. 167-173; 1991. Includes references.

Language: English

Descriptors: Solar energy; Heat; Storage; Materials; Sodium sulfate; Recrystallization; Melting; Salts; Dynamic models

77 NAL Call. No.: 60.19 S083

An economic comparison of solar and LP gas forage drying system. Benson, F.J.; Harrison, W.; Parker, B.F.; Lindley, M.R.

New Orleans, La. : U.S. Department of Agriculture, Agricultural Research Service; 1992 Sep.

Proceedings of the Southern Pasture and Forage Crop Improvement Conference (47th): p. 65-70; 1992 Sep. Conference held May 13-15, 1991 at Mississippi State, Mississippi. Also appears under call no. aS21.R44A7, ARS-105. Includes references.

Language: English

Descriptors: Alfalfa hay; Haymaking; Drying; Solar energy; Liquid petroleum gas; Solar collectors; Economic evaluation

78 NAL Call. No.: TJ810.A54

The effect of atmospheric pressure induced stress on the design shaped cylindrical glass evacuated solar collectors. Garrison, J.D.

Boulder, Colo. : The Society; 1992.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 232-237; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Glass; Cylinders; Surfaces; Tensile stress; Design; Mathematics

79 NAL Call. No.: TJ810.A1S6

Effect of plastic cover thickness on top loss coefficient of flat-plate collectors.

Wijeysundera, N.E.; Iqbal, M.

Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 46 (2): p. 83-87; 1991. Includes references.

Language: English

Descriptors: Solar collectors; Plastic film; Thickness; Heat loss; Radiation; Properties; Incidence; Spectral data; Heat transfer

The effect of sandstorms on PV arrays and components.
Thornton, J.P.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 81-85; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical
energy; Photovoltaic cells; Systems; Deserts; Sand; Storms;
Adverse effects; Exposure; Surfaces; Design; Building
materials; Protective coatings

81 NAL Call. No.: TJ810.A1S6
Effect of wall conductivity on thermal stratification.
Murthy, S.S.; Nelson, J.E.B.; Rao, T.L.S.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 273-277; 1992 Oct. Includes
references.

Language: English

Descriptors: Solar energy; Solar radiation; Energy conversion;
Thermal energy; Storage; Systems; Water; Tanks; Walls;
Conductivity; Heat resistance

82 NAL Call. No.: TJ810.A54
Effect of water depth on the performance of a shallow basin
solar still. Egariyewe, S.U.; Olasupo, O.T.; Mbamalu, J.E.;
Azekhumhen, W. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 194-196; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Africa; Solar energy; Utilization; Water;
Distillation; Water purification; Drinking water; Production;
Productivity; Rural areas; Installations; Performance

83 NAL Call. No.: TJ810.A1S6
The effects of phase change during the stand-by period in
latent heat energy storage systems.
Toksoy, M.; Ilken, Z.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 69-73; 1991. Includes references.

Language: English

Descriptors: Solar energy; Latent heat; Energy; Storage;
Systems; Temperature gradients; Interface; Position;
Mathematical models

84 NAL Call. No.: TJ810.A1S6
The elimination of the reverse circulation in thermosiphon
solar water heaters.
Prapas, D.E.; Sotiropoulos, B.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 237-239; 1991. Includes
references.

Language: English

Descriptors: Solar collectors; Water; Heaters; Reversing;
Circulation; Nocturnal activity

85 NAL Call. No.: TJ810.A54
The emergence of amorphous silicon photovoltaics.
Stafford, B.; Luft, W.; Von Roedern, B.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 15-18; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: U.S.A.; Solar energy; Energy conversion;
Electrical energy; Photovoltaic cells; Electrical equipment;
Performance; Federal aid; Research support; Development aid

86 NAL Call. No.: TJ810.A1S6
Empirical regression models for weather data measured in
Kuwait during the years 1985, 1986, and 1987.
Alaruri, S.D.; Amer, M.F.
Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 229-233; 1993. Includes
references.

Language: English

Descriptors: Kuwait; Solar radiation; Weather data;
Measurement; Solar energy; Utilization; Regression analysis;
Models

87 NAL Call. No.: S494.5.E547
Energy inputs in production agriculture.
Pimentel, D.
Amsterdam : Elsevier; 1992.
Energy in world agriculture v. 6: p. 13-29; 1992. In the
series analytic: Energy in Farm Production / edited by R.C.
Fluck. Includes references.

Language: English

Descriptors: U.S.A.; Agricultural production; Food production;
Energy consumption; Fuels; Solar energy; Animal power; Human
power; Energy sources; Energy conversion; Farm inputs

88 NAL Call. No.: TJ810.A1S6
Energy losses through entrance condensation in small vapour
engines. Bom, G.J.
Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 223-228; 1993. Includes
references.

Language: English

Descriptors: Solar energy; Losses; Vapor; Engines; Pistons;
Types; Design; Thermodynamics

89 NAL Call. No.: HC59.7.A1W6
Establishing new markets for mature energy equipment in
developing countries: experience with windmills, hydro-powered
mills and solar water heaters. Hurst, C.
Elmsford : Pergamon Press; 1990 Apr.
World development v. 18 (4): p. 605-615; 1990 Apr. Includes
references.

Language: English

Descriptors: Developing countries; Argentina; Nepal; Renewable
resources; Energy sources; Windmills; Water power; Turbines;
Solar energy; Equipment; Technology; Diffusion of research;
Government; Intervention; Supply balance; Rural areas

90 NAL Call. No.: TJ810.A1S6
An estimation of the total atmospheric pollution in the city of Thessaloniki using solar energy data.
Sahsamanoglou, H.S.; Makrogiannis, T.I.; Meletis, H.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (3): p. 145-148; 1991. Includes references.

Language: English

Descriptors: Greece; Solar energy; Data analysis; Solar radiation; Air pollution; Evaluation

91 NAL Call. No.: TJ810.A1S6
Evacuated glazing.
Collins, R.E.; Robinson, S.J.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (1): p. 27-38; 1991. Includes references.

Language: English

Descriptors: Solar radiation; Glazing; Glass; Atmospheric pressure; Coatings; Thermal conductivity; Windows; Optical properties; Vacuum; Heat flow; Temperature gradients; Calculation; Equations

92 NAL Call. No.: TJ810.A54
Evaluating solar heating and cooling models for a residential dwelling using a personal computer.
Porter, K.J.; Macken, N.A.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 529-534; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Cooling systems; Computer simulation

93 NAL Call. No.: TJ810.A1S6
Evaluation of a jet plate solar air heater.
Choudhury, C.; Garg, H.P.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 199-209; 1991. Includes references.

Language: English

Descriptors: Solar collectors; Air heaters; Heat transfer; Equipment; Jets; Air flow; Air temperature; Performance; Efficiency; Calculation; Equations

94 NAL Call. No.: 80 AC82
Evaluation of thermal performance of water-filled polyethylene tubes used for passive solar greenhouse heating.
Pavlou, G.Ch
Wageningen : International Society for Horticultural Science; 1991 May. Acta horticultrae (287): p. 89-97; 1991 May. Paper presented at the "Second International Symposium on Protected Cultivation of Vegetables in Mild Winter Climates," October 29-November 3, 1989, Crete, Greece. Includes references.

Language: English

Descriptors: Greece; Greenhouses; Solar heating

Abstract: Transparent water-filled polyethylene (PE) tubes of five different circumferences were used in a passive solar system for greenhosue heating. Evaluation of their thermal performance gave the following results: The relationship between the size of tube circumference and the amount of energy collected and released per tube linear metre was positive parabolic. The efficiency of water tubes in releasing heat energy expressed as the proportion of energy released to that collected per collection-release energy cycle varied according to radiation and temperature conditions. Under unfavourable conditions, of low radiation intensity followed by low minimum air temperature, the superiority of big tubes over small ones was clear. The daily heat energy balance of tubes was usually negative, i.e., the amount of energy released was greater than that collected during a given collection-release cycle. Under favourable conditions, of high radiation levels followed by mild minimum air temperatures, the release efficiency was usually slightly higher in the small tubes, with usually positive daily energy balance in all tubes, i.e., the energy released was less than the energy collected during the cycle. Under intermediate conditions, theses efficiencys differed slightly or were equal for all tube sizes with either positive or negative daily energy balances.

95 NAL Call. No.: TJ810.A54
Exceeding 3% wiring voltage drop can result in cost vs performance benefit. Lorenzen, A.D.; Berg, W.M. Boulder, Colo. : The Society; 1992. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 63-67; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Cost benefit analysis; Performance; Cost effectiveness analysis; Models

96 NAL Call. No.: TJ810.A1S6
Experience with a large solar DHW system in Denmark--the Nordic solar heating demonstration project. Pedersen, P.V. Tarrytown, N.Y. : Pergamon Press; 1993. Solar energy v. 50 (3): p. 259-266; 1993. Includes references.

Language: English

Descriptors: Denmark; Solar energy; Solar collectors; Solar heating; Water; Household equipment; Design

97 NAL Call. No.: TJ810.A54
Experience with high performance solar pond operation for electricity production. Xu, H.; Lu, H.; Golding, P.; Swift, A.H.P. Boulder, Colo. : The Society; 1992. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 86-91; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Texas; Solar energy; Energy conversion; Electrical energy; Solar collectors; Salinity; Gradients; Ponds; Electricity generators; Design; Thermal efficiency; Performance

98 NAL Call. No.: TJ810.A54
Experiences in the evolution of a solar water heating system.
Vliet, G.C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 255-259; 1990. Meeting held March
19-22, 1990, Austin, Texas.

Language: English

Descriptors: Solar energy; Heating systems; Water

99 NAL Call. No.: TJ810.A1S6
Experiment and analysis of practical-scale solar pond
stabilized with salt gradient.
Kanayama, K.; Inaba, H.; Baba, H.; Fukuda, T.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 353-359; 1991. Includes
references.

Language: English

Descriptors: Japan; Solar energy; Solar collectors; Ponds;
Saline water; Performance; Temperature; Heat; Yields;
Simulation; Calculation; Mathematical models

100 NAL Call. No.: TJ810.A1S6
Experimental analysis of the energy performance of a passive
attached sunspace.
Meroni, I.; Scamoni, F.; Tirloni, P.; Pollastro, C.; Lacci, R.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 329-332; 1991. Includes
references.

Language: English

Descriptors: Solar collectors; Building industry; Building
construction; Components; Testing; Energy; Performance

101 NAL Call. No.: TJ810.A1S6
Experimental characterization of the heat transfer in a free-
falling-particle receiver.
Rightly, M.J.; Matthews, L.K.; Mulholland, G.P.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 363-374; 1992. Includes
references.

Language: English

Descriptors: Solar energy; Radiation; Heat flow; Equipment;
Design; Operation; Thermocouples; Models

102 NAL Call. No.: TJ810.A54
Experimental evaluation of a photovoltaic simulation program.
Perez, R.; Doty, J.; Bailey, B.; Stewart, R.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 46-51; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical
energy; Photovoltaic cells; Simulation models; Algorithms;
Meteorological factors

103 NAL Call. No.: TJ810.A54
Experimental investigation of kinetic parameters in a photocatalytic oxidation system.
Martin, A.R.; Klausner, J.F.; Saltiel, C.; Goswami, D.Y.; Schanze, K.S. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 288-291; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Waste water treatment; Catalytic activity; Oxidation; Catalysts; Titanium dioxide; Slurries; Solar radiation; Solar energy

104 NAL Call. No.: TJ810.A54
Experimental investigation of solar storage tank stratification coefficients. McCarthy, D.E.; Wood, B.D. Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 95-100; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Water; Tanks; Mathematical models

105 NAL Call. No.: TJ810.A54
Externalities: their role and value in near-term solar power implementation. Swindler, G. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 364-369; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Electricity; Cost analysis; Externalities; Renewable resources; Energy sources; Competitive ability; Environmental impact; Pollution

106 NAL Call. No.: TJ810.A54
Facility design and research capabilities of the high intensity solar test facility.
Sutton, M.M. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 19-24; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Testing; Installations; Design; Optical instruments; Performance

107 NAL Call. No.: TJ810.A156
Feasibility studies on the enhancement of energy storage in the ground beneath solar ponds.
Prasad, R.; Rao, D.P. Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 135-144; 1993 Feb. Includes references.

Language: English

Descriptors: Solar heating; Ponds; Solar energy; Storage

108 NAL Call. No.: TJ810.A54
Field experiences with photovoltaic vaccine refrigeration in the Americas. McCarney, S.P.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 229-230; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: U.S.A.; Solar energy; Photovoltaic cells; Refrigerators; Vaccines

109 NAL Call. No.: TJ810.A54
Florida solar water heating initiative.
Kettles, C.M.; Freen, M.; Harrison, J.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 385-390; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Florida; Solar energy; Water; Heating systems

110 NAL Call. No.: 290.9 AM32T
Forced-air drying of baled alfalfa hay.
Parker, B.F.; White, G.M.; Lindley, M.R.; Gates, R.S.; Collins, M.; Lowry, S.; Bridges, T.C.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1992 Mar. Transactions of the ASAE v. 35 (2): p. 607-615. ill; 1992 Mar. Literature review. Includes references.

Language: English

Descriptors: U.S.A.; Alfalfa hay; Bales; Forced air drying; Solar energy; Literature reviews

Abstract: Small rectangular bales of alfalfa were successfully dried using two forced-air drying systems with heat from LP gas, solar energy (with off-peak electricity on some tests) or ambient air, and with average dry matter densities of alfalfa ranging from 80 to 166 kg/m³ (5.0-10.4 lb/ft³) with average moisture contents up to 37% (w.b.). The drying rates, pressure requirements for forced flow, psychrometric data, and hay quality before and after drying are reported. The data and a developed "drying parameter" for small rectangular alfalfa bales provide guidance for design of baled hay dryers.

111 NAL Call. No.: S494.5.E547
Free-convection dryers.
Corvalan, R.; Zambrano, W.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 397-413; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Solar drying; Equations; Design

112 NAL Call. No.: TJ810.A1S6
The frequency distribution of daily global irradiation at Kumasi. Akuffo, F.O.; Brew-Hammond, A.

Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 145-154; 1993 Feb. Includes
references.

Language: English

Descriptors: Ghana; Solar energy; Solar radiation; Frequency
distribution; Statistical analysis

113 NAL Call. No.: TJ810.A54
The future of amorphous silicon photovoltaics.
Stafford, B.L.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 3-7; 1990. Meeting held March 19-22,
1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Silicon

114 NAL Call. No.: TJ810.A1S6
Gradient maintenance using discrete brine injections in a salt
gradient solar pond.
Sherman, B.S.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 321-327; 1992 Oct. Includes
references.

Language: English

Descriptors: Australian northern territory; Solar energy;
Energy conversion; Thermal energy; Storage; Ponds; Salt;
Gradients; Brine; Injection; Injectors; Design calculations

115 NAL Call. No.: S494.5.E547
Greenhouses: structure, heating and ventilation, and related
equipment. Mears, D.R.
Amsterdam : Elsevier; 1992.
Energy in world agriculture v. 6: p. 241-255; 1992. In the
series analytic: Energy in Farm Production / edited by R.C.
Fluck. Includes references.

Language: English

Descriptors: Horticultural crops; Greenhouse culture;
Greenhouses; Structural design; Heating; Ventilation; Energy
requirements; Energy cost of activities; Heating costs; Heat
transfer; Simulation models; Energy exchange; Energy
conservation; Heating systems; Optimization; Environmental
control; Fuels; Solar energy; Crop production; Growth; Space
utilization

116 NAL Call. No.: TJ810.A1S6
Heat exchange in a multi-cavity volumetric solar receiver.
Carotenuto, A.; Ruocco, G.; Reale, F.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 241-248; 1991. Includes
references.

Language: English

Descriptors: Solar radiation; Losses; Installation; Equations;
Design; Heat exchange

117 NAL Call. No.: TJ810.A54
Heat extraction, temperature and gradient performance from two

seawater-SZ solar ponds.
Collado, F.; Lowrey, P.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 427-435; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Sea water; Ponds; Temperature;
Heat; Extraction; Temperature gradients

118 NAL Call. No.: TJ810.A1S6
High concentration two-stage optics for parabolic trough solar
collectors with tubular absorber and large rim angle.
Collares-Pereira, M.; Gordon, J.M.; Rabl, A.; Winston, R.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (6): p. 457-466; 1991. Includes
references.

Language: English

Descriptors: Solar collectors; Design; Equations

119 NAL Call. No.: TJ810.A1S6
Hydrogen peroxide photoproduction by immobilized cells of the
blue-green alga *Anabaena variabilis*: a way to solar energy
conversion.
Morales, I.; Rosa, F.F. de la
Tarrytown, N.Y. : Pergamon Press; 1992 Jul.
Solar energy v. 49 (1): p. 41-46; 1992 Jul. Includes
references.

Language: English

Descriptors: *Anabaena variabilis*; Cells; Immobilization;
Hydrogen peroxide; Redox reactions; Solar energy; Energy
conversion; Photosynthesis

120 NAL Call. No.: TJ810.A54 A
HyperCard-based Active Solar Energy System Simulator.
Kim, J.J.; Greene, N.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 123-128; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Education; Computer simulation

121 NAL Call. No.: TJ810.A54
Implementation of NREL short term test procedure.
Walker, H.A.; Roper, M.R.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 183-188; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Colorado; Solar energy; Water; Heating;
Residential institutions; Performance; Laboratory tests

122 NAL Call. No.: TJ810.A1S6
The importance of wall angle for stability in solar ponds.
Akbarzadeh, A.; Golding, P.

Tarrytown, N.Y. : Pergamon Press; 1992 Aug.
Solar energy v. 49 (2): p. 123-126; 1992 Aug. Includes references.

Language: English

Descriptors: Victoria; Solar energy; Storage; Ponds; Stability; Walls; Effects; Salt; Gradients; Solar radiation; Angle of incidence; Geographical distribution; Latitude

123 NAL Call. No.: TJ810.A54
Improvement in the power output of a 350 KW photovoltaic field, (in operation since 1981).
Smiai, M.S.; Al-Salem, M.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 71-75; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Saudi arabia; Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Performance; Power; Outturn; Improvement

124 NAL Call. No.: S671.A33
Improving traditional grape drying technology using solar energy. Fuller, R.J.; Schache, M.J.; Morey, B.G.; Hayes, R.J.; Gould, I.V.; Goldsmith, C.A.
Victoria : Agricultural Engineering Society; 1990.
Agricultural engineering Australia v. 19 (2): p. 14-17; 1990. Includes references.

Language: English

Descriptors: Grapes; Drying; Solar energy

125 NAL Call. No.: QC73.6.E5
Incorporating solar electric power into rural electrification programs--a case study of Kenya.
Singh, P.
Washington, DC : Taylor & Francis; 1991 Mar.
Energy sources v. 13 (1): p. 67-75; 1991 Mar. In the special issue: Energy, environment, and sustainable world development: energy options for the year 2000 / edited by J. Byrne and S. Hoffman. Includes references.

Language: English

Descriptors: Kenya; Solar energy; Electric power; Rural development; Technology; Infrastructure; Foreign exchange; Banks; Constraints; Case studies; Rural planning; Energy consumption

126 NAL Call. No.: TJ810.A54
Influence of heat exchanger effectiveness and system flow rates on experimental ratings of a genetic antifreeze SDHW system. Thornbloom, M.D.; Davidson, J.H.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 123-128; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Heat exchangers; Design; Efficiency; Solar collectors; Water; Heating systems; Performance; Heat production

127 NAL Call. No.: TJ810.A1S6
Insights from the operation of Solar One and their implications for future central receiver plants.
Kolb, G.J.; Alpert, D.J.; Lopez, C.W.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (1): p. 39-47; 1991. Includes references.

Language: English

Descriptors: California; Solar energy; Energy conversion; Electricity generators; Energy cost of production; Solar collectors

128 NAL Call. No.: TJ810.A1S6
Institutional and financing changes that need to be implemented to bring solar and renewable energy into significant worldwide markets.
Sklar, S.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 101-103; 1993 Feb.

Language: English

Descriptors: Solar energy; Energy sources; Marketing; Investment; Financial institutions

129 NAL Call. No.: TJ810.A54
An integrated approach to solar photovoltaic air conditioning.
Parker, D.; Dunlop, J.; Young, B.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 52-57; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Residential institutions; Air conditioning; Loads; Energy cost of activities

130 NAL Call. No.: TJ810.A1S6
Integrated collector-storage systems with suppressed thermal losses. Tripanagnostopoulos, Y.; Yianoulis, P.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (1): p. 31-43; 1992. Includes references.

Language: English

Descriptors: Solar collectors; Solar energy; Storage; Design; Solar heating; Water; Heat loss; Equations

131 NAL Call. No.: TJ810.A54
Integrated design and operation of a passive/active solar house. Burke, A.F.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 156-161; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Idaho; Solar energy; Energy conversion; Thermal energy; Residential institutions; Heating systems; Water; Heating; Cooling systems; Design; Operation; Solar radiation

132 NAL Call. No.: TJ810.A54
Integrating photovoltaics into utility planning.
Plate, P.; Stokes, K.; Zabukover, J.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 99-102; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: Colorado; Solar energy; Energy conversion;
Electrical energy; Photovoltaic cells; Public utilities; Rural
areas; Rural planning; Reliability; Costs; Performance

133 NAL Call. No.: TJ810.A1S6
Internal waves and K-H instability in thermal layers of the
advanced solar pond (ASP).
Bemporad, G.A.; Rubin, H.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (1): p. 21-28; 1991. Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Ponds; Thermal
energy; Energy conversion; Equations; Models

134 NAL Call. No.: TJ810.A1S6
Investigation of a eutectic mixture of sodium acetate
trihydrate and urea as latent heat storage.
Li, J.H.; Zhang, G.E.; Wang, J.Y.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (6): p. 443-445; 1991. Includes
references.

Language: English

Descriptors: China; Solar energy; Heat; Storage; Latent heat;
Sodium acetate; Urea; Mixtures

135 NAL Call. No.: TJ810.A54
Kilowatt scale tests and applications of nonimaging
secondaries at the NREL high flux solar furnace.
O'Gallagher, J.J.; Winston, R.; Cooke, D.; Gleckman, P.;
Lewandowski, A. Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 271-276; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Furnaces; Solar
radiation; Concentration; Design; Testing; Applications

136 NAL Call. No.: TJ810.A54
Lab installation for solar collector testing.
Abramov, A.; Bogachkov, V.; Rasulov, A.; Rasulov, A.;
Shcheglov, V.; Zakar'yaev, Z.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 165-169; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical
energy; Photovoltaic cells; Solar collectors; Laboratory
tests; Installations; Design; Operation

137 NAL Call. No.: TJ810.A1S6
Letter to the editor: comments on optimum flow rates in solar water heating systems with a counterflow exchanger.
Winter, F. de
Tarrytown, N.Y. : Pergamon Press; 1992 Dec.
Solar energy v. 49 (6): p. 557-558; 1992 Dec. Original article published in Solar Energy v. 48 (1), 1992. Authors' reply on p. 557-558.

Language: English

Descriptors: Solar energy; Heating systems

138 NAL Call. No.: TJ810.A1S6
Manufacture, solar transmission, and heat transfer characteristics of large-celled honeycomb transparent insulation.
Hollands, K.G.T.; Lynkaran, K.; Ford, C.; Platzer, W.J.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 381-385; 1992. In the special issue: Transparent Insulation / edited by A. Goetzberger. Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Solar collectors; Insulation; Insulating materials; Thermal conductivity; Transmittance; Heat transfer; Measurement; Performance; Prediction

139 NAL Call. No.: TJ810.A1S6
Measurement and analysis of the step response of pyranometers requiring second-order correction.
Shen, B.; Robinson, A.M.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 309-313; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Pyranometers; Models; Responses; Errors

140 NAL Call. No.: TJ810.A1S6 A
methodology for the synthesis of hourly weather data.
Knight, K.M.; Klein, S.A.; Duffie, J.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 109-120; 1991. Includes references.

Language: English

Descriptors: Solar radiation; Weather data; Environmental impact; Systems; Simulation

141 NAL Call. No.: 290.9 AM32P
Modeling of a flat-plate solar collector/two-stage absorption refrigeration system for food freezing applications.
Zuritz, C.A.; Pinheiro, M. da C.; Rumsey, T.R.
St. Joseph, Mich. : The Society; 1990.
Paper - American Society of Agricultural Engineers (90-6011): 19 p.; 1990. Paper presented at the "1990 International Summer Meeting," June 24-27, 1990, Columbus, Ohio. Includes references.

Language: English

Descriptors: Refrigeration; Solar collectors; Solar energy;
Mathematical models

142 NAL Call. No.: TJ810.A1S6
Modelling and simulation of elements for solar heating and
daylighting. Wilke, W.S.; Schmid, J.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (5): p. 295-304; 1991. Includes
references.

Language: English

Descriptors: Solar heating; Daylight; Insulating materials;
Simulation models; Elements; Dynamic models

143 NAL Call. No.: TJ810.A1S6
Modelling of flat-plate collectors based on monolithic silica
aerogel. Nordgaard, A.; Beckman, W.A.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 387-402; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Solar collectors;
Prediction; Radiation; Transfer; Insulating materials; Silica
gel; Transmittance; Models; Infrared heaters; Heat transfer

144 NAL Call. No.: TJ810.A1S6
Modelling of the dynamics of a low-speed gas-liquid heat
engine. Cunha, C.M.P.; Parise, J.A.R.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 353-361; 1992. Includes
references.

Language: English

Descriptors: Heat; Engines; Operation; Thermal energy; Energy
conversion; Mechanics; Solar energy; Mathematical models;
Performance; Prediction; Simulation models; Design

145 NAL Call. No.: TJ810.A1S6 A
modular phase change heat exchanger for a solar oven.
Bushnell, D.L.; Sohi, M.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 235-244; 1992 Oct. Includes
references.

Language: English

Descriptors: Solar energy; Heat exchangers; Ovens; Heat
transfer; Oils; Solar collectors; Simulation; Thermal
efficiency; Thermal energy; Energy retention

146 NAL Call. No.: TJ810.A54
Monitoring and performance of a 3 kWe PV facility.
Osborn, D.E.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 307-310; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells

147 NAL Call. No.: TJ810.A1S6
Natural convection in composite wall collectors with porous absorber. Du, Z.G.; Bilgen, E.
Elmsford, N.Y. : Pergamon Press; 1990.
Solar energy v. 45 (6): p. 325-332. ill; 1990. Includes references.

Language: English

Descriptors: Walls; Solar collectors; Convection; Heat transfer; Absorbents

148 NAL Call. No.: TJ810.A1S6 A
new comprehensive international solar irradiation database. Berg, W.; Duffy, J.
Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 215-216; 1992 Sep.

Language: English

Descriptors: Solar radiation; Weather data; Photovoltaic cells; Databases

149 NAL Call. No.: TJ810.A1S6 A
new continuous device to perform S-L-G photocatalytic studies. Aguado, M.A.; Gimenez, J.; Simarro, R.; Cervera-March, S.
Tarrytown, N.Y. : Pergamon Press; 1992 Jul.
Solar energy v. 49 (1): p. 47-52; 1992 Jul. Includes references.

Language: English

Descriptors: Solar energy; Light; Catalytic activity; Catalysts; Energy consumption

150 NAL Call. No.: TJ810.A54
The new integrated CPC. O'Gallagher, J.J.; Winston, R.; Cooke, D.; Duff, W.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 220-224; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy; Cooling systems; Technology; Design

151 NAL Call. No.: TJ810.A1S6 A
new look at the maximum conversion efficiency of black-body radiation. Kabelac, S.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (4): p. 231-236; 1991. Includes references.

Language: English

Descriptors: Solar radiation; Energy conversion; Efficiency; Thermodynamics; Equations

152 NAL Call. No.: TJ810.A54
New photovoltaic module concept incorporating spherical silicon. Graf, E.S.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 9-11; 1992. Meeting held on June

15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: U.S.A.; Solar energy; Equipment; Photovoltaic cells; Silicon

153 NAL Call. No.: TJ810.A54 A
new rating and certification program for solar domestic hot water systems. Wood, B.; Dunlop, J.; Ladas, L. Boulder, Colo. : The Society; 1990. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 101-105; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Water; Households

154 NAL Call. No.: TJ810.A1S6 A
new transparently insulated, bifacially irradiated solar flat-plate collector. Goetzberger, A.; Dengler, J.; Rommel, M.; Gottsche, J.; Wittwer, V. Tarrytown, N.Y. : Pergamon Press; 1992. Solar energy v. 49 (5): p. 403-411; 1992. In the special issue: Transparent Insulation / edited by A. Goetzberger. Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Solar collectors; Heat loss; Optical properties; Residential institutions; Heating systems; Design

155 NAL Call. No.: TJ810.A54
The next step in Comprehensive Photovoltaic Training: the Siemens Solar industries 2-Step Training Program. Mrohs, M.F. Boulder, Colo. : The Society; 1990. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 145-147; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Training; Educational programs

156 NAL Call. No.: TJ810.A54
The North Carolina solar center: a strategy for statewide solar programming and services in the 90's. Shirley, L.E. Boulder, Colo. : The Society; 1992. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 383-385; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: North Carolina; Solar energy; Utilization; Renewable resources; Energy sources; State government; Government organizations; Development projects; Programs; Information centers; Information services; Educational programs; Technical aid

157 NAL Call. No.: TJ810.A1S6 A
novel advanced box-type solar cooker.

Grupp, M.; Montagne, P.; Wackernagel, M.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 107-113; 1991. Includes
references.

Language: English

Descriptors: India; Ethiopia; Solar heating; Cooking utensils;
Construction; Design; Performance; Heat transfer; Absorption;
Conductivity

158 NAL Call. No.: TJ810.A156
Nucleation of sodium acetate trihydrate in thermal heat
storage cycles. Guion, J.; Teisseire, M.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 97-100; 1991. Includes references.

Language: English

Descriptors: Solar energy; Heat; Storage; Materials; Sodium
acetate; Nucleation

159 NAL Call. No.: TJ810.A156
Numerical simulation of solar collectors: the effect of
nonuniform and nonsteady state of the boundary conditions.
Oliva, A.; Costa, M.; Perez Segarra, C.D.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 359-373; 1991. Includes
references.

Language: English

Descriptors: Solar collectors; Thermal properties; Simulation
models; Heat transfer

160 NAL Call. No.: TJ810.A54
Numerical simulation of thermal performance of a solar heat
pump water heater. Ericson, S.; Chaturvedi, S.K.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 151-155; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy;
Water; Heaters; Residential institutions; Heat pumps;
Performance; Thermodynamics; Prediction; Equations; Computer
simulation; Programs; Solar collectors; Compressors

161 NAL Call. No.: TJ810.A156
On the hydrodynamics of salt-gradient solar ponds.
Zangrando, F.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 323-341; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Solar collectors; Saline water;
Ponds; Storage; Hydrodynamics; Performance; Gradients;
Equations

162 NAL Call. No.: S494.5.E547
On-farm processing of plant and animal products.
Baird, C.D.; Talbot, M.T.
Amsterdam : Elsevier; 1992.

Energy in world agriculture v. 6: p. 267-299; 1992. In the series analytic: Energy in Farm Production / edited by R.C. Fluck. Includes references.

Language: English

Descriptors: Agricultural production; On-farm processing; Energy consumption; Energy requirements; Milling; Handling; Refrigeration; Heating; Drying; Crops; Energy sources; Electrical energy; Solar energy; Natural gas; Energy conservation; Farm equipment

163 NAL Call. No.: TJ810.A1S6
The onset of thermohaline convection in the advanced solar pond (ASP). Bemporad, G.A.; Rubin, H.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 245-255; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Laboratory tests; Simulation; Equations; Ponds

164 NAL Call. No.: TJ810.A1S6
Operation of a commercial solar gel pond.
Wilkins, E.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 383-388; 1991. Includes references.

Language: English

Descriptors: New Mexico; Solar energy; Solar collectors; Gels; Ponds; Design; Construction; Mathematical models; Performance

165 NAL Call. No.: TJ810.A54
Opportunities for utility involvement with solar domestic hot water. Carlisle, N.; Christensen, C.; Barrett, L.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 139-144; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Water; Heating; Residential institutions

166 NAL Call. No.: TJ810.A1S6
Optical properties of V-trough concentrators.
Fraidenraich, N.; Almeida, G.J.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 147-155; 1991. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Photovoltaic cells; Electrical equipment; Optical properties; Reflection; Beams; Radiation; Diffusion; Errors; Equations; Calculation

167 NAL Call. No.: TJ810.A54
Optimal control of stand-alone photovoltaic systems.
Frye, S.L.; Duffy, J.J.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar

Energy Society, Inc. p. 211-214; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Mathematical models

168 NAL Call. No.: TJ810.A1S6
Optimal thermohydraulic performance of artificially roughened solar air heaters.
Prasad, B.N.; Saini, J.S.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 91-96; 1991. Includes references.

Language: English

Descriptors: Solar heating; Air heaters; Heat transfer; Surface roughness; Thermal efficiency; Hydraulics; Performance; Air flow; Friction; Losses; Optimization

169 NAL Call. No.: TJ810.A1S6
Optimisation of steam-based energy transport in distributed solar systems. Carden, P.O.; Bansal, P.K.
Tarrytown, N.Y. : Pergamon Press; 1992 Dec.
Solar energy v. 49 (6): p. 451-461; 1992 Dec. Includes references.

Language: English

Descriptors: Solar energy; Thermal energy; Energy conversion

170 NAL Call. No.: TJ810.A1S6
Optimization of an absorber plate fin having a step-change in local thickness. Hollands, K.G.T.; Stedman, B.A.
Tarrytown, N.Y. : Pergamon Press; 1992 Dec.
Solar energy v. 49 (6): p. 493-495; 1992 Dec. Includes references.

Language: English

Descriptors: Solar collectors; Construction

171 NAL Call. No.: TJ810.A54
Optimization of conventional and matched flow solar DHW systems employing advanced concepts and components.
Duff, W.S.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 135-138; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: Solar energy; Solar collectors; Design; Performance; Prediction; Simulation models

172 NAL Call. No.: 290.9 AM32T
Optimization of solar hay drying in a step-flow dryer.
Radajewski, W.; Gaydon, D.; McGahan, E.J.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1990 Sep. Transactions of the ASAE v. 33 (5): p. 1423-1431. ill; 1990 Sep. Includes references.

Language: English

Descriptors: Queensland; Dryers; Alfalfa hay; Artificial

drying; Energy conservation; Fuel consumption; Optimization;
Solar drying; Cost benefit analysis; Simulation models

Abstract: Artificially drying lucerne immediately after cutting eliminates quality losses during field drying and minimizes the number of field operations. The average potential saving, calculated over a 20-year period for southeast Queensland, is about \$40 (Australian)/t of hay, minus drying costs. The optimum technique of hay drying (immediately after cutting) in a solar-supplemented, step-flow dryer was investigated. A computer model was developed to minimize the cost of drying and to define the optimum drying parameters. Sensitivity analyses were carried out for drying air temperatures in the range of 30 to 70 degrees C. The results show that there is an optimum number of hours of operation per day (8 h/d) for any combination of the other variables. The most critical factors affecting annual savings are the temperature of drying air, the length of the drying season, the cost of fuel, and the specific cost of the collector. An economic analysis showed that an average annual increase in profit of about \$16/t of dried hay (at 12% w.b.) could be attained under optimum sets of operating conditions.

173 NAL Call. No.: TJ810.A1S6
Optimum aperture size and operating temperature of a solar cavity-receiver. Steinfeld, A.; Schubnell, M.
Tarrytown, N.Y. : Pergamon Press; 1993 Jan.
Solar energy v. 50 (1): p. 19-25; 1993 Jan. Includes references.

Language: English

Descriptors: Solar collectors; Solar energy; Absorption;
Energy conversion; Efficiency

174 NAL Call. No.: TJ810.A54
The optimum design of a hexagonal honeycomb cover for fresh water solar ponds. Schaefer, R.W.; Lowrey, P.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 417-425; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Ponds; Covers; Computer simulation

175 NAL Call. No.: TJ810.A1S6
The optimum design of honeycomb solar ponds and a comparison with salt gradient ponds.
Schaefer, R.; Lowrey, P.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (2): p. 69-78; 1992. Includes references.

Language: English

Descriptors: California; Missouri; Solar energy; Collection;
Ponds; Design; Computers; Models; Solar radiation;
Transmittance; Heat loss; Costs

176 NAL Call. No.: TJ810.A1S6
Optimum flow rates in solar water heating systems with a counterflow exchanger.
Hollands, K.G.T.; Brunger, A.P.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (1): p. 15-19; 1992. Includes references.

Language: English

Descriptors: Solar collectors; Solar heating; Water; Heat exchangers

177 NAL Call. No.: TJ810.A1S6
An optimum load management strategy for stand-alone photovoltaic power systems.
Groumpos, P.P.; Papegeorgiou, G.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 121-128; 1991. Includes references.

Language: English

Descriptors: Arizona; Photovoltaic cells; Power; Systems; Loads; Management; Optimization; Batteries; Size; Algorithms

178 NAL Call. No.: TJ810.A1S6
Optimum matching of ohmic loads to the photovoltaic array.
Khouzam, K.; Khouzam, L.; Groumpos, P.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 101-108; 1991. Includes references.

Language: English

Descriptors: Photovoltaic cells; Electricity; Loads; Ohmmeters; Generators

179 NAL Call. No.: TJ810.A1S6
An organic PCM storage system with adjustable melting temperature. Kauranen, P.; Peippo, K.; Lund, P.D.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (5): p. 275-278; 1991. Includes references.

Language: English

Descriptors: Solar heating; Storage; Temperature; Carboxylic acids; Melting point; Scanning; Calorimetry; Solutions; Models

180 NAL Call. No.: TJ810.A1S6
Orientation of stationary axial collectors.
Faiman, D.; Mills, D.R.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 257-261; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Orientation; Optimization; Equations; Insolation

181 NAL Call. No.: TJ810.A54
Outdoor testing of advanced optical materials for solar thermal electric applications.
Wendelin, T.J.; Jorgensen, G.; Goggin, R.M.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 27-31; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Thermal energy; Reflection; Materials; Optical properties; Exposure; Testing; Site selection; Meteorological

factors

182 NAL Call. No.: TJ810.A156
Outdoor testing of solar water heaters--effects of load pattern and auxiliary boosting.
Morrison, G.L.; Gilliaert, D.; Tebaldi, P.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 299-308; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Water; Heaters; Tanks; Performance testing; Loads; Patterns

183 NAL Call. No.: TJ810.A54
Parametric study of component selection and operation on generic drain-back solar water heater certification.
Carlson, W.T.; Davidson, J.H.; Duff, W.S.; Leone, D.M.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 107-114; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Water; Households; Evaluation; Certification

184 NAL Call. No.: 275.29 AL13P
Passive solar heating: an energy factsheet.
Fairbanks, Alaska : The Service; 1991 Nov.
Publication - University of Alaska, Cooperative Extension Service v.): 4 p.; 1991 Nov. Includes references.

Language: English

Descriptors: Alaska; Dwellings; Solar heating; Heating systems

185 NAL Call. No.: TJ810.A156
Performance and modelling of latent heat stores.
Hoogendoorn, C.J.; Bart, G.C.J.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (1): p. 53-58; 1992. Includes references.

Language: English

Descriptors: Solar radiation; Thermal energy; Storage; Latent heat; Performance; Simulation models; Mathematical models

186 NAL Call. No.: TJ810.A156
Performance equations of a collector cum storage system using phase change materials.
Bansal, N.K.; Buddhi, D.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 185-194; 1992. Includes references.

Language: English

Descriptors: India; Solar collectors; Solar energy; Storage; Systems; Thermal analysis; Performance; Energy balance; Equations; Calculation; Mathematical models

187 NAL Call. No.: TJ810.A156
Performance indicators for solar pipes with phase change

storage. Sokolov, M.; Keizman, Y.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 339-346; 1991. Includes
references.

Language: English

Descriptors: Israel; Solar radiation; Solar energy; Storage;
Latent heat; Performance; Indicators; Thermal energy;
Mathematics

188 NAL Call. No.: 290.9 AM32P
Performance of a caged brooding facility.
Allen, W.H.; Hughes, B.L.
St. Joseph, Mich. : The Society; 1990.
Paper - American Society of Agricultural Engineers (90-4020):
13 p.; 1990. Paper presented at the "1990 International Summer
Meeting," June 24-27, 1990, Columbus, Ohio. Includes
references.

Language: English

Descriptors: Brooders; Broiler performance; Heat exchange;
Solar heating

189 NAL Call. No.: TJ810.A156
The performance of a solar-regenerated open-cycle desiccant
bed grain cooling system.
Ismail, M.Z.; Angus, D.E.; Thorpe, G.R.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (2): p. 63-70. ill; 1991. Includes
references.

Language: English

Descriptors: Australia; Grain stores; Food grains; Cooling
systems; Keeping quality; Solar collectors; Tropical climate

190 NAL Call. No.: TJ810.A156
Performance of air-heating collectors with packed airflow
passage. Choudhury, C.; Gang, H.P.
Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 205-221; 1993. Includes
references.

Language: English

Descriptors: Solar collectors; Air heaters; Construction

191 NAL Call. No.: 290.9 AM32P
Performance of an integrated solar collector/heat recovery
system. Allen, W.H.; Dhingra, D.P.
St. Joseph, Mich. : The Society; 1989.
Paper - American Society of Agricultural Engineers (89-4088):
p. 1-12; 1989. Paper presented at the 1989 International
Summer Meeting jointly sponsored by the American Society of
Agricultural Engineers, and the Canadian Society of
Agricultural Engineering, June 25-28, 1989, Quebec, Canada.
Includes references.

Language: English

Descriptors: Solar collectors; Chicken housing; Waste heat
utilization

192 NAL Call. No.: TJ810.A156 A
performance prediction method for solar energy systems.

Suehrcke, H.; McCormick, P.G.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 169-175; 1992. Includes
references.

Language: English

Descriptors: Solar energy; Systems; Solar radiation; Models;
Thermal energy; Photovoltaic cells; Performance; Prediction

193 NAL Call. No.: 290.9 AM32P
Performance simulation of a vortex generator as a passive
charging device in rockbed solar heat storage.
Castro, R.C.; Alphin, J.G.; Allen, W.H.
St. Joseph, Mich. : The Society; 1990.
Paper - American Society of Agricultural Engineers (90-6037):
25 p.; 1990. Paper presented at the 1990 International Summer
Meeting, June 24-27, 1990, Columbus, Ohio. Includes
references.

Language: English

Descriptors: Air drying; Solar energy; Wind power

194 NAL Call. No.: TJ810.A156
Performance simulation of solar collectors made of concrete
with embedded conduit lattice.
Sokolov, M.; Reshef, M.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 403-411; 1992. Includes
references.

Language: English

Descriptors: Solar collectors; Design; Performance;
Efficiency; Simulation models; Equations

195 NAL Call. No.: TJ810.A156
Performance study of one-dimensional models for stratified
thermal storage tanks.
Kleinbach, E.M.; Beckman, W.A.; Klein, S.A.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 155-166; 1993 Feb. Includes
references.

Language: English

Descriptors: Solar heating; Tanks; Temperature; Distribution;
Models; Performance

196 NAL Call. No.: TJ810.A156
Photocatalytic destruction of organic dyes in aqueous TiO₂
suspensions using concentrated simulated and natural solar
energy.
Reeves, P.; Ohlhausen, R.; Sloan, D.; Pamplin, K.; Scoggins,
T.; Clark, C.; Hutchinson, B.; Green, D.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 413-420; 1992. Includes
references.

Language: English

Descriptors: Solar energy; Dyes; Organic compounds;
Destruction; Catalytic activity; Titanium; Oxides;
Suspensions; Simulation

197 NAL Call. No.: TJ810.A54

Photocatalytic destruction of toxic organic compounds in aqueous solution. Hutchinson, B.; Cockrum, D.; Clark, C.; Pamplin, K.; Scoggins, T.; Sloan, D.; Reeves, P. Boulder, Colo. : The Society; 1990. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 341-345; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Dyes; Catalytic activity; Decomposition

198 NAL Call. No.: TD478.D4
Photochemically assisted solar desalination of saline water. Al-Abbasi, M.A.; Al-Karaghoul, A.A.; Minasian, A.N. Amsterdam : Elsevier Science Publishers, B.V.; 1992 Aug. Desalination v. 86 (3): p. 317-324; 1992 Aug. Includes references.

Language: English

Descriptors: Solar energy; Saline water; Desalinization; Bromine; Iodine

199 NAL Call. No.: TJ810.A156
Photoelectrolysis of water in semiconductor septum electrochemical photovoltaic cells. Tien, H.T.; Chen, J.W. Elmsford, N.Y. : Pergamon Press; 1992. Solar energy v. 48 (3): p. 199-204; 1992. Includes references.

Language: English

Descriptors: Water; Hydrogen; Production; Solar energy; Storage; Conversion; Systems; Photovoltaic cells; Photosynthesis; Thylakoids; Lipids; Membranes; Models

200 NAL Call. No.: TD930.A32
Photosynthetic efficiency optimization studies with the macroalga *Gracilaria tikvahiae*: implications for CO2 emission control from power plants. Laws, E.A.; Berning, J.L. Essex : Elsevier Applied Science Publishers; 1991. Bioresource technology v. 37 (1): p. 25-33; 1991. Includes references.

Language: English

Descriptors: Hawaii; Algae; Photosynthesis; Efficiency; Energy conversion; Water; Salinity; Solar radiation; Environmental temperature; Biomass production; Methane production; Anaerobic treatment; Fermentation; Coal; Electric power; Generators; Carbon dioxide; Emission

201 NAL Call. No.: TJ810.A54
Photovoltaic demonstrations in Florida--a new approach. Harrison, J.L.; Dunlop, J.P.; Kettles, C.M.; Lahart, D. Boulder, Colo. : The Society; 1990. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 297-299; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Florida; Solar energy; Photovoltaic cells

202 NAL Call. No.: TJ810.A54
Photovoltaic design assistance and training center: a program to increase the use of photovoltaics in Florida.
Harrison, J.L.; LaHart, D.E.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 410-411; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: Florida; Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Design; Technology; Educational programs; Vocational training; Technical aid; Information centers

203 NAL Call. No.: TJ810.A54
Photovoltaic export trade of the U.S.A. 1986-1988.
Blanco, M.J.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 293-296; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: U.S.A.; Photovoltaic cells; Exports

204 NAL Call. No.: TJ810.A54
Photovoltaic pilot plant.
Dollard, C.J.; Emslie, W.A.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 235-239; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: Colorado; Solar energy; Photovoltaic cells; Power

205 NAL Call. No.: TJ810.A54
Photovoltaic powered energy systems.
Eckstein, J.; Townsend, T.; Beckman, W.A.; Duffie, J.A.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 199-204; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Computer simulation

206 NAL Call. No.: S494.5.E547
Photovoltaic system design.
Rosenblum, L.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 67-113; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Electric power; Solar energy; Solar collectors; Photovoltaic cells; Systems; Systems analysis; Design; Batteries; Regulators; Controllers; Instrumentation; Performance; Size; Costs; Safety; Maintenance

207 NAL Call. No.: TJ810.A54
Physical simulation of the advanced solar pond (ASP) performance. Rubin, H.; Keren, Y. Boulder, Colo. : The Society; 1990. Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 407-409; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Ponds; Simulation

208 NAL Call. No.: TJ810.A156
Plume entrainment effects in solar domestic hot water systems employing variable-flow-rate control strategies. Csordas, G.F.; Brunger, A.P.; Hollands, K.G.T.; Lightstone, M.F. Tarrytown, N.Y. : Pergamon Press; 1992 Dec. Solar energy v. 49 (6): p. 497-505; 1992 Dec. Includes references.

Language: English

Descriptors: Solar energy; Heating systems

209 NAL Call. No.: QC73.6.E5
The politics of alternative energy: a study of water pumping systems in developing nations. Hoffman, S.M.; Byrne, J. Washington, DC : Taylor & Francis; 1991 Mar. Energy sources v. 13 (1): p. 55-66; 1991 Mar. In the special issue: Energy, environment, and sustainable world development: energy options for the year 2000 / edited by J. Byrne and S. Hoffman. Includes references.

Language: English

Descriptors: Developing countries; Water supply; Economic viability; Pumps; Appropriate technology; Comparisons; Cost effectiveness analysis; Renewable resources; Water power

210 NAL Call. No.: 421 C16
Portable, solar-powered charging system for blacklight traps. Gerber, G.H.; Walkof, J.; Juskiw, D. Ottawa : Entomological Society of Canada; 1992 May. The Canadian entomologist v. 124 (3): p. 553-554. ill; 1992 May. Includes references.

Language: English

Descriptors: Light traps; Batteries; Charges; Solar energy; Insect traps; Insects; Monitoring

211 NAL Call. No.: TJ810.A156
Potentials for tracking photovoltaic systems and V-troughs in moderate climates. Nann, S. Elmsford, N.Y. : Pergamon Press; 1990. Solar energy v. 45 (6): p. 385-393. ill; 1990. Includes references.

Language: English

Descriptors: Solar radiation; Solar energy; Photovoltaic cells; Climate; Costs; Tracking; Systems

212 NAL Call. No.: TJ810.A54

Power generation from renewables in India: present status and future prospects.

Singh, D.; Singh, R.

Boulder, Colo. : The Society; 1992.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 392-396; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: India; Renewable resources; Energy sources; Solar energy; Power; Production; Electrical energy; Wind power; Cost benefit analysis; Economic evaluation

213 NAL Call. No.: TJ163.4.U6E53

Practical uses of solar energy.

Gainesville, Fla. : Florida Cooperative Extension Service; 1992 Jun. Energy efficiency and environmental news. 5 p.; 1992 Jun. Includes references.

Language: English

Descriptors: Florida; Solar energy; Solar heating; Water; Electricity; Photovoltaic cells

214 NAL Call. No.: TJ812.B64

Preliminary study of solar ponds for salinity control in the Colorado River basin.

Boegli, W. J.; Dahl, Michael M.; Remmers, Harry E.

Engineering and Research Center (U.S.), Division of Research, Engineering and Research Center (U.S.), Division of Design Denver, Colo. : Division of Research, Division of Design, Engineering and Research Center, U.S. Dept. of the Interior, Bureau of Reclamation; 1982. 1 v. (various pagings) : ill. ; 28 cm. Cover title. Advanced Energy Applications Program project no. DE-12.

Language: English

Descriptors: Solar collectors; Solar ponds

215 NAL Call. No.: TJ810.A54

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. American Solar Energy Society. Conference Denver, Colo. : American Solar Energy Society, 1989-; 1989-9999. v. : ill. ; 28 cm.

Language: English; English

Descriptors: Solar energy

216 NAL Call. No.: S494.5.E547

Production solar greenhouses.

Albright, L.D.

Amsterdam : Elsevier; 1991.

Energy in world agriculture v. 4: p. 213-231; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Solar energy; Greenhouses; Solar collectors

217 NAL Call. No.: TJ810.A54 A

profile of stand-alone residential power systems.

Shugar, D.; Hammond, B.

Boulder, Colo. : The Society; 1990.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 231-233; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: California; Solar energy; Power; Photovoltaic cells

218 NAL Call. No.: TJ810.A54 A
program to maximize the photovoltaic energy potential in New York State. Peterson, J.M.; Mastaitis, V.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 386-391; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: New York; Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Research projects; Cost benefit analysis; Competitive ability; Educational programs; Data collection; Technology; Market planning

219 NAL Call. No.: TJ810.A54
Progress in the optimization of an evacuated solar thermal collector system design for application to hot water heating. Garrison, J.D.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 553-558; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Water; Heating systems

220 NAL Call. No.: GB611.A3 A
promising solar thermal collector for arid areas. Hamad, G.F.; Gupta, M.C.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v. 5: p. 335-349; 1991. In series analytic: Desert development: proceedings of the Second International Desert Development Conference held on January 25-31, 1987, in Cairo, Egypt / edited by A. Bishay and H. Dregne. Includes references.

Language: English

Descriptors: Saudi arabia; Water; Desalinization; Solar energy; Thermal energy

221 NAL Call. No.: TJ810.A156
Properties of a new liquid desiccant solution--lithium chloride and calcium chloride mixture. Ertas, A.; Anderson, E.E.; Kiris, I.
Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 205-212; 1992 Sep. Includes references.

Language: English

Descriptors: Solar energy; Utilization; Solutions; Mixtures; Calcium chloride; Lithium; Chloride; Air drying; Physical properties; Crops; Postharvest treatment; Drying methods

222 NAL Call. No.: TJ810.A54
Properties of a new liquid desiccant solution--lithium chloride and calcium chloride mixture.
Ertas, A.; Anderson, E.E.; Kiris, I.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 535-540; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Calcium chloride; Lithium; Mixtures; Cooling systems; Solar energy

223 NAL Call. No.: TJ810.A156
Proposal for a new superlattice-based solar cell structure.
Anderson, N.G.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 191-192; 1993 Feb. Includes references.

Language: English

Descriptors: Photovoltaic cells; Solar energy; Energy conversion; Electrical energy; Design; Structure

224 NAL Call. No.: TJ810.A54
Proposed performance verification field test for the SRCC solar hot water system certification program.
Burch, J.; Wood, B.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 115-120; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Heating systems; Water; Certification

225 NAL Call. No.: TJ810.A54 A
prototype solar kitchen for developing countries.
MacMath, R.; Fisk, P. III
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 199-201; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Developing countries; Solar energy; Utilization; Kitchens; Equipment; Performance

226 NAL Call. No.: TJ163.4.U6E36
Pumping water for irrigation using solar energy.
Helikson, H.J.; Haman, D.Z.; Baird, C.D.
Gainesville, Fla. : The Service; 1990.
EES - Florida Cooperative Extension Service (63): 9 p.; 1990. Includes references.

Language: English

Descriptors: Florida; Automatic irrigation systems; Photovoltaic cells; Costs

227 NAL Call. No.: TJ810.A54
PV Chart--a nomographic solution to the optimization of a

grid-connected photovoltaic system.
Potter, R.A. Jr
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 205-210; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Nomograms

228 NAL Call. No.: TJ810.A54
PV powered health clinic using single-stage dual priority
regulator. Salameh, Z.M.; Lynch, W.A.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 301-306; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Massachusetts; Solar energy; Power; Photovoltaic
cells

229 NAL Call. No.: TJ810.A54
PV system performance in Micronesia.
Shupe, J.W.
Boulder, Colo. : The Society; 1989.
Proceedings of the ... Annual Meeting, American Solar Energy
Society, Inc. p. 320-325; 1989. Meeting held June 19-22,
1989, Denver, Colorado.

Language: English

Descriptors: Micronesia; Solar energy; Photovoltaic cells;
Electrical energy; Energy conversion; Systems; Performance

230 NAL Call. No.: TJ810.A156
Pyranometer frequency response measurement and general
correction scheme for time response error.
Shen, B.; Robinson, A.M.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 315-320; 1992 Oct. Includes
references.

Language: English

Descriptors: Solar energy; Solar radiation; Pyranometers;
Models; Frequency; Responses; Errors; Correction factors

231 NAL Call. No.: TJ810.A156 A
rating procedure for solar domestic hot water systems based on
ASHRAE-95 test results.
Minnerly, B.V.; Klein, S.A.; Beckman, W.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (6): p. 405-411; 1991. Includes
references.

Language: English

Descriptors: Solar heating; Water systems; Performance
appraisals; Prediction; Models; Solar collectors; Equations

232 NAL Call. No.: TJ810.A156
Rational analysis of mass, momentum, and heat transfer
phenomena in liquid storage tanks under realistic operating
conditions: 1. Basic formulation. Parrini, F.; Vitale, S.;

Alabiso, M.; Castellano, L.
Tarrytown, N.Y. : Pergamon Press; 1992 Aug.
Solar energy v. 49 (2): p. 87-94; 1992 Aug. Includes
references.

Language: English

Descriptors: Solar energy; Tanks; Water; Performance;
Equations; Heat exchange; Heat transfer; Friction; Losses;
Mathematical models

233 NAL Call. No.: TJ810.A1S6
Rational analysis of mass, momentum, and heat transfer
phenomena in liquid storage tanks under realistic operating
conditions: 2. Application to a feasibility study.
Parrini, F.; Vitale, S.; Castellano, L.
Tarrytown, N.Y. : Pergamon Press; 1992 Aug.
Solar energy v. 49 (2): p. 95-106; 1992 Aug. Includes
references.

Language: English

Descriptors: Solar energy; Tanks; Water; Performance; Heat
pumps; Insulation; Panels; Installations; Design;
Instrumentation; Construction; Heat exchange; Heat transfer;
Models

234 NAL Call. No.: TJ810.A54
Recent progress in photovoltaic concentration module
technology. Richards, E.H.; Chamberlin, J.L.; Boes, E.C.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 9-19; 1990. Meeting held March 19-22,
1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Technology

235 NAL Call. No.: TJ807.9.D44R46
Renewable energy sources for developing countries.
Stambolis, Costis
London ; [Danbury] Conn. : Heliotechnic Press,; 1981.
258 p. : ill., maps ; 25 cm. "A Unesco sponsored study"--
Cover. Includes bibliographical references.

Language: English; English

Descriptors: Renewable energy sources; Developing countries;
Energy development; Developing countries; Solar energy;
Developing countries

236 NAL Call. No.: TD420.A1E5 A
renewable-energy future.
Flavin, C.; Lensen, N.
Washington, D.C. : American Chemical Society; 1991 May.
Environmental science & technology v. 25 (5): p. 834-837. ill;
1991 May. Includes references.

Language: English

Descriptors: Energy sources; Renewable resources; Solar
energy; Energy conversion

237 NAL Call. No.: TJ810.A54
Research on hot plate solar cooker.
Wang, X.P.; Zhang, J.; Hou, S.Q.; Sha, Y.L.

Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 197-198; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: China; Solar energy; Utilization; Cooking utensils; Heat loss; Design; Calculation

238 NAL Call. No.: TJ810.A54
Research toward commercialization at the El Paso Solar Pond. Swift, A.; Golding, P.; Leonard, C.W.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 71-79; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Texas; Solar energy; Ponds

239 NAL Call. No.: S671.A66
Rockbed heat storage with active charge and passive discharge. Parker, B.F.; Coliver, D.G.; White, G.M.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1992 Mar. Applied engineering in agriculture v. 8 (2): p. 257-260; 1992 Mar. Includes references.

Language: English

Descriptors: Solar heating; Rocks; Spatial distribution; Heat transfer; Simulation

Abstract: An 8 m³ (280 ft.³) crushed limestone rockbed was tested to determine the location of a simulated solar heat charge within the rockbed arid the time required for passive discharge by conduction through a concrete floor. An equation for computing the location of peak temperature in the rockbed is compared with the data. Approximately two days were required for passive discharge of the heat from the insulated rockbed by conduction arid free convection.

240 NAL Call. No.: TJ810.A54
Role of spectrally selective films in solar applications. Soule, D.E.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 487-491; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Coatings

241 NAL Call. No.: TJ810.A54
Salinity measurement in a solar pond. Abramov, A.; Milikhin, I.; Popel, O.; Scheglov, V.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 92-95; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Thermal energy; Solar collectors; Ponds; Salinity; Measurement; Solutions; Concentration; Electromagnetic field;

Electrical conductivity; Sensors

242 NAL Call. No.: TJ810.A54
Salinity probe for salt-gradient solar ponds.
Kleis, S.J.; Sanchez, L.A.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 401-406; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Salt; Gradients; Ponds

243 NAL Call. No.: TD478.D4
Salt-gradient solar ponds from concentrated subsurface
agricultural drainage waters of the San Joaquin Valley,
California.
Hayes, D.W.J.; Kipps, J.A.L.
Amsterdam : Elsevier Science Publishers, B.V.; 1992 Oct.
Desalination v. 88 (1/3): p. 301-309; 1992 Oct. Proceedings
of the NWSIA 1992 Biennial Conference on "Desalting and
Recycling: Meeting Today's Water Challenges," August 23-27,
1992, Newport Beach, California. Volume 2. Includes
references.

Language: English

Descriptors: California; Drainage water; Brackish water;
Desalinization; Salt; Gradients; Solar energy; Ponds

244 NAL Call. No.: Q184.R4
Satellite remote sensing of surface energy and mass balance:
results from FIFE.
Hall, F.G.; Sellers, P.J.; Strelbel, D.E.; Kanemasu, E.T.;
Kelly, R.D.; Blad, B.L.; Markham, B.J.; Wang, J.R.; Huemmrich,
F.
New York, N.Y. : Elsevier Science Publishing; 1991 Feb.
Remote sensing of environment v. 35 (2/3): p. 187-199; 1991
Feb. Paper presented at the "Symposium on Remote Sensing for
Agriculture," May 16-18, 1990, Beltsville, Maryland. Includes
references.

Language: English

Descriptors: Solar radiation; Interception; Vegetation;
Canopy; Latent heat; Release; Thermodynamics; Biology;
Control; Effects; Weather; Climate; Satellites; Remote
sensing; Surface area; Energy balance; Field experimentation;
Photosynthesis; Reflectance; Radiometry; Temperature

245 NAL Call. No.: TJ810.A1S6
Saturated solar ponds. 1. Simulation procedure.
Subhakar, D.; Srinivasa Murthy, S.
Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 275-282; 1993. Includes
references.

Language: English

Descriptors: Solar energy; Ponds; Simulation models

246 NAL Call. No.: TJ810.A1S6
Scale-model experiments of applying a Fresnel prism to
greenhouse covering. Kurata, K.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (1): p. 53-57; 1991. Includes references.

Language: English

Descriptors: Greenhouses; Cladding; Artificial light; Solar radiation; Light transmission

247 NAL Call. No.: TJ810.A1S6
Seawater as salt and water source for solar ponds.
Folchitto, S.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 343-351; 1991. Includes references.

Language: English

Descriptors: Italy; Solar energy; Solar collectors; Ponds; Sea water; Energy; Costs

248 NAL Call. No.: TJ810.A1S6
Series resistance in n-MoSe₂ (TMDC)-based PEC solar cells.
Pathak, V.M.; Srivastava, R.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 123-127; 1993 Feb. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Photovoltaic cells; Electrical energy

249 NAL Call. No.: TJ810.A54 A
simple analytical load model for sizing PV-powered vaccine refrigerators. Kilfoyle, D.; Ventre, G.G.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 215-220; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Refrigerators; Vaccines; Power requirement; Mathematical models

250 NAL Call. No.: 80 AC82 A
simple method for representation of solar radiation and weather data for design purposes.
Segal, I.; Arbel, A.; Thysebaert, D. de
Wageningen : International Society for Horticultural Science; 1989. Acta horticultrae v. 245: p. 363-369; 1989. Paper presented at the "Symposium on Engineering and Economic Aspects of Energy Saving in Protected Cultivation," September 4-8, 1988, Cambridge, United Kingdom. Includes references.

Language: English

Descriptors: Israel; Solar collectors; Design; Solar radiation; Environmental temperature; Computer software; Computer simulation

251 NAL Call. No.: TJ810.A1S6
Simulation and analysis of open cycle absorption systems for solar cooling. Haim, I.; Grossman, G.; Shavit, A.
Tarrytown, N.Y. : Pergamon Press; 1992 Dec.
Solar energy v. 49 (6): p. 515-534; 1992 Dec. Includes references.

Language: English

Descriptors: Solar energy; Cooling systems

252 NAL Call. No.: TJ810.A1S6
Simulation and economic evaluation of a solar evaporation system for concentrating sodium chloride brines.
Smith, M.K.; Newell, T.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 389-399; 1991. Includes references.

Language: English

Descriptors: Illinois; Solar energy; Solar collectors; Evaporation; Ponds; Sodium chloride; Brine; Concentration; Simulation models; Physical models; Economics

253 NAL Call. No.: TJ810.A1S6
Simulation of transparently insulated buildings.
Sick, F.; Kummer, J.P.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 429-434; 1992. In the special issue: Transparent Insulation / edited by A. Goetzberger. Includes references.

Language: English

Descriptors: German federal republic; Solar energy; Energy conversion; Thermal energy; Buildings; Insulation; Insulating materials; Heating systems; Simulation models; Energy requirements

254 NAL Call. No.: TJ810.A1S6
Single-stage dual priority regulator for photovoltaic systems.
Salameh, Z.M.; Lynch, W.A.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 349-351; 1992. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electricity; Photovoltaic cells; Design; Application; Batteries; Systems; Charges

255 NAL Call. No.: TJ810.A54
Site-built large volume integral collector storage (ICS) systems for commercial and industrial facilities.
Healey, H.M.; Burrows, D.; Foster, K.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 225-231; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Florida; Solar energy; Utilization; Water; Heating systems; Performance; Costs

256 NAL Call. No.: TJ810.A54
Solar car technology: a revolution in automotive design.
King, R.J.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 21-25; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Vehicles

257 NAL Call. No.: TJ810.A54
Solar collector performance simulation for residential and small commercial buildings using the RENCON microcomputer program.
Degelman, L.O.; Kim, B.S.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 547-551; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar collectors; Water; Heating systems; Design; Computer simulation

258 NAL Call. No.: TD812.S68
Solar collectors, energy storage, and materials.
DeWinter, Francis
Cambridge, Mass. : MIT Press,; 1990.
xiii, 1082 p. : ill. ; 24 cm. (Solar heat technologies ; 5).
Includes bibliographical references and index.

Language: English

Descriptors: Solar collectors

259 NAL Call. No.: S494.5.E547
Solar curing of specialty crops.
Bunn, J.M.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 373-396; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Crops; Processing; Drying; Solar drying; Curing; Solar heating; Peanuts; Hops; Tobacco; Sweet potatoes

260 NAL Call. No.: TJ810.A54
Solar electric energy storage.
McConnell, R.D.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 111-114; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Storage; Technology; Electricity; Production; Loads; Requirements; Costs

261 NAL Call. No.: aZ5071.N3
Solar energy alternatives for agriculture--January 1986-February 1991. Chapman, S.
Beltsville, Md. : The Library; 1991 Apr.
Quick bibliography series - U.S. Department of Agriculture, National Agricultural Library (U.S.). (91-84): 41 p.; 1991 Apr. Bibliography.

Language: English

Descriptors: Solar energy; Agriculture; Bibliographies

262 NAL Call. No.: GB611.A3
Solar energy and desert development.
Hayes, D.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v.
5: p. 33-42; 1991. In series analytic: Desert development:
proceedings of the Second International Desert Development
Conference held on January 25-31, 1987, in Cairo, Egypt /
edited by A. Bishay and H. Dregne. Includes references.

Language: English

Descriptors: Deserts; Land development; Solar energy

263 NAL Call. No.: QD415.A1J62
Solar energy conversion from water photolysis by biological
and chemical systems.
Rosa, M.A. de la; Navarro, J.A.; Roncel, M.
Clifton, N.J. : Humana Press; 1991 Jul.
Applied biochemistry and biotechnology v. 30 (1): p. 61-81;
1991 Jul. Includes references.

Language: English

Descriptors: Water; Oxidation; Photolysis; Solar energy;
Chemicals; Fuels

264 NAL Call. No.: TJ810.A1S6
Solar energy distribution over Egypt using cloudiness from
meteosat photos. Shaltout, M.A.M.; Hassen, A.H.
Elmsford, N.Y. : Pergamon Press; 1990.
Solar energy v. 45 (6): p. 345-351. maps; 1990. Includes
references.

Language: English

Descriptors: Egypt; Solar energy; Distribution; Solar
radiation; Measurement; Meteorological observations; Models

265 NAL Call. No.: TJ810.A54
Solar energy policy in the 101st Congress: regulatory and
legislative initiatives.
Sklar, S.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 375-377; 1990. Meeting held March
19-22, 1990, Austin, Texas.

Language: English

Descriptors: U.S.A.; Solar energy; Policy; Legislation

266 NAL Call. No.: TJ810.A1S6
Solar energy storage via a closed-loop chemical heat pipe.
Levy, M.; Levitan, R.; Rosin, H.; Rubin, R.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 179-189; 1993 Feb. Includes
references.

Language: English

Descriptors: Solar energy; Storage; Transport

267 NAL Call. No.: S494.5.E547

Solar fruit drying.
Carnegie, E.J.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 335-349; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Fruit crops; Dried fruit; Processing; Solar drying; Dehydration

268 NAL Call. No.: TJ810.A1S6
Solar fuels: status and perspectives.
Serpone, N.; Lawless, D.; Terzian, R.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 221-234; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Energy consumption; Energy sources; Thermochemical processes; Energy conversion; Hydrogen; Production; Techniques

269 NAL Call. No.: S494.5.E547
Solar grain drying.
Keener, H.M.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 295-314; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Grain crops; Solar drying; Equations; Mathematical models; Grain drying

270 NAL Call. No.: 100 P381 no.712
Solar heat for poultry housing.
Bartlett, Howard D.,
University Park, Pa. : Pennsylvania State University, College of Agriculture, Agricultural Experiment Station; 1964.
17 p. : ill., map ; 23 cm. (Bulletin (Pennsylvania State University. Agricultural Experiment Station) ; 712.). Cover title. Bibliography: p. 17.

Language: English

Descriptors: Poultry; Solar heating

271 NAL Call. No.: QC73.6.E5
Solar housing potential in the climates of the Andean region in Argentina. Rosa, C. de; Esteves, A.; Basso, M.; Pattini, A.; Ravetto, A. Washington, DC : Taylor & Francis; 1991 Mar.
Energy sources v. 13 (1): p. 19-38; 1991 Mar. In the special issue: Energy, environment, and sustainable world development: energy options for the year 2000 / edited by J. Byrne and S. Hoffman. Includes references.

Language: English

Descriptors: Argentina; Solar heating; Housing costs; Design; Climatic factors; Mountain areas; Social benefits; Quality of life; Energy conservation; Technology; Public housing

272 NAL Call. No.: TJ810.033

Solar hydrogen moving beyond fossil fuels.
Ogden, Joan M.,; Williams, Robert H.,
Washington, D.C. : World Resources Institute,; 1989.
vii, 123 p. : ill. , maps ; 25 cm. Includes bibliographical
references.

Language: English

Descriptors: Solar energy; Hydrogen as fuel

273 NAL Call. No.: TJ810.A54
Solar in Federal Buildings Program.
Hillig, O.R.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 285-290; 1990. Meeting held March
19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: U.S.A.; Solar energy; Heating systems; Cooling
systems

274 NAL Call. No.: TJ810.A54
Solar in Federal Buildings Program: a Utah survey.
Kortman, G.M.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 281-284; 1990. Meeting held March
19-22, 1990, Austin, Texas.

Language: English

Descriptors: Utah; Solar energy; Cost analysis; Heating
systems; Cooling systems

275 NAL Call. No.: TJ810.A54
Solar information services to aid public education.
Melody, I.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 153-157; 1990. Meeting held March
19-22, 1990, Austin, Texas.

Language: English

Descriptors: Florida; Solar energy; Information services

276 NAL Call. No.: TJ810.A54
Solar irradiance at Gaborone as monitored with a device which
employs a high performance solar cell as a detector.
Prah, J.H.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 345-349; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Photovoltaic
cells; Potentiometers; Solar radiation

277 NAL Call. No.: TJ810.A54
Solar pond with mechanical heat pump.
Nielsen, C.E.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar

Energy Society, Inc. p. 411-416; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Solar energy; Ponds; Heat pumps

278 NAL Call. No.: TJ810.A156
Solar ponds in hydrometallurgy and salt production.
Lesino, G.; Saravia, L.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 377-382; 1991. Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Ponds; Mining; Performance; Economic evaluation; Salt; Production

279 NAL Call. No.: GB611.A3 A
solar powered NFT system for desert development.
Assabghy, F.; El-Bagouri, I.; Seif, S.A.; El-Kheshen, K.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v. 5: p. 307-334; 1991. In series analytic: Desert development: proceedings of the Second International Desert Development Conference held on January 25-31, 1987, in Cairo, Egypt / edited by A. Bishay and H. Dregne. Includes references.

Language: English

Descriptors: Egypt; Agricultural development; Deserts; Solar energy

280 NAL Call. No.: TH7413.T88
Solar projects for under \$500.. Solar projects for under five hundred dollars Twitchell, Mary
Pownal, Vt. : Storey Communications; 1985.
viii, 130 p. : ill. ; 28 cm. A Garden Way Publishing book.

Language: English

Descriptors: Solar energy; Building

281 NAL Call. No.: TJ810.A54
Solar radiation data and its applications.
Marion, B.; Renne, D.; Riordan, C.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 350-355; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: U.S.A.; Solar radiation; Solar energy; Energy conversion; Use efficiency; Engineering; Economic analysis; Measurement; Instruments

282 NAL Call. No.: TJ810.A156
Solar test of an integrated sodium reflux heat pipe receiver/reactor for thermochemical energy transport.
Diver, R.B.; Fish, J.D.; Levitan, R.; Levy, M.; Meirovitch, E.; Rosin, H.; Paripatyadar, S.A.; Richardson, J.T.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (1): p. 21-30; 1992. Includes references.

Language: English

Descriptors: Israel; Solar heating; Sodium; Latent heat

283 NAL Call. No.: TJ810.A54
Solar thermal electric systems: a cost effective utility option. Lotker, M.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 29-35; 1990. Meeting held March 19-22, 1990, Austin, Texas.

Language: English

Descriptors: California; Solar energy; Thermal energy

284 NAL Call. No.: TJ810.A54
Solar thermal energy storage in phase change materials. Jotshi, C.K.; Goswami, D.Y.; Tomlinson, J.J.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 174-179; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy; Storage; Materials; Thermal properties

285 NAL Call. No.: S494.5.E547
Solar thermal water pumping. Burton, R.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 415-424; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Water; Pumps; Solar energy; Solar heating; Electric power; Systems analysis; Equations; Optimization

286 NAL Call. No.: TJ810.A54
Solar water heater maintenance: Pennsylvania survey results. Lau, A.S.; Aungst, W.K.
Boulder, Colo. : The Society; 1990.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 37-43; 1990. Meeting held March 19-22, 1990, Austin, Texas. Includes references.

Language: English

Descriptors: Pennsylvania; Solar energy; Heating systems; Water; Households

287 NAL Call. No.: S494.5.E547
Solar water heating. Faiman, D.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 187-211; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Solar energy; Solar heating; Heating systems; Water; Systems; Design

288 NAL Call. No.: S494.5.S86S8
Solar water pumping on the sustainable farm.
Groves, R.P.
Binghamton, N.Y. : Food Products Press; 1990.
Journal of sustainable agriculture v. 1 (1): p. 55-58; 1990.

Language: English

Descriptors: Sustainability; Farming systems; Irrigation;
Water allocation; Solar energy; Photovoltaic cells; Pumps;
Feasibility

289 NAL Call. No.: TJ810.A1S6
Solar-assisted heat pumps systems and energy storage.
Kaygusuz, K.; Comakli, O.; Ayhan, T.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 383-391; 1991. Includes
references.

Language: English

Descriptors: Turkey; Solar energy; Storage; Heat pumps;
Systems; Solar collectors; Latent heat; Thermal energy;
Performance; Grain drying; Air temperature; Air conditioning

290 NAL Call. No.: S494.5.E547
Solar-heated lumber kilns.
Plumptre, R.A.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 351-371; 1991. In the
series analytic: Energy in World Agriculture / edited by B.F.
Parker. Includes references.

Language: English

Descriptors: Lumber; Drying; Solar drying; Kilns; Design;
Solar collectors

291 NAL Call. No.: NBUTD478.6 B55 Y27 1990
Solar-powered desalination a case study from Botswana.. Solar
powered desalination
Yates, Roger; Woto, Teedzani; Tlhage, Judge T.
International Development Research Centre (Canada)
Ottawa, ON, Canada : International Development Research
Centre; 1990. viii, 55 : ill. ; 25 cm. (IDRC-TS (Series) ;
65e.). Text in English; summary in English, French, and
Spanish. Includes bibliographical references (p. 55).

Language: English

Descriptors: Saline water conversion; Solar saline water
conversion plants

292 NAL Call. No.: QC73.6.E5
Solar-powered food-water-power system for arid areas.
Moustafa, S.; Zewen, H.; Al-Kandarie, A.
Washington, DC : Taylor & Francis; 1991 Mar.
Energy sources v. 13 (1): p. 5-18; 1991 Mar. In the special
issue: Energy, environment, and sustainable world development:
energy options for the year 2000 / edited by J. Byrne and S.
Hoffman. Includes references.

Language: English

Descriptors: Kuwait; Solar energy; Fresh water;
Desalinization; Arid regions; Settlement; Food production;
Energy consumption; Design; Equipment; Reverse osmosis;

Irrigation water

293 NAL Call. No.: S494.5.E547
Solar-thermal design.
Parker, B.F.
Amsterdam : Elsevier; 1991.
Energy in world agriculture v. 4: p. 157-185; 1991. In the series analytic: Energy in World Agriculture / edited by B.F. Parker. Includes references.

Language: English

Descriptors: Solar energy; Solar heating; Heating systems; Solar collectors; Equations; Mathematical models

294 NAL Call. No.: TJ810.A1S6
Solid coolant method for investigating the collector efficiency curve from ambient to stagnation.
Faiman, D.; Collins, R.E.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 355-357; 1991. Includes references.

Language: English

Descriptors: New South Wales; Solar collectors; Efficiency

295 NAL Call. No.: TJ810.A1S6
Spectral response and efficiency of a silicon solar cell below water surface. Muaddi, J.A.; Jamal, M.A.
Tarrytown, N.Y. : Pergamon Press; 1992 Jul.
Solar energy v. 49 (1): p. 29-33; 1992 Jul. Includes references.

Language: English

Descriptors: Solar radiation; Measurement; Incidence; Water; Surfaces; Solar energy; Depth; Photoelectric cells; Silicon; Computer software; Spectral analysis; Responses; Prediction

296 NAL Call. No.: TJ810.A1S6
Spontaneous downward heat transport comparison tests of an improved system. De Beni, G.; Friesen, R.
Tarrytown, N.Y. : Pergamon Press; 1993 Jan.
Solar energy v. 50 (1): p. 27-34; 1993 Jan. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Water; Heating systems

297 NAL Call. No.: TJ810.A1S6
Stability of antireflection coatings for large area glazing.
Chinyama, G.K.; Roos, A.; Karlsson, B.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 105-110; 1993 Feb.

Language: English

Descriptors: Solar collectors; Coated glass; Glazing

298 NAL Call. No.: TJ810.A54
Stand-alone PV system sizing based on both solar and reliability uncertainties.
Wijesooriya, P.; Duffy, J.

Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 58-62; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical energy; Photovoltaic cells; Systems; Solar radiation; Design; Reliability; Uncertainty; Algorithms; Components; Failure; Equations; Models

299 NAL Call. No.: TJ810.A1S6
Statistical properties of hourly global radiation.
Aguiar, R.; Collares-Pereira, M.
Elmsford, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (3): p. 157-167; 1992. Includes references.

Language: English

Descriptors: Meteorological observations; Solar radiation; Statistical analysis; Models; Solar energy

300 NAL Call. No.: TJ810.A54
Step down maximum power point tracker for photovoltaic systems. Salameh, Z.M.; Dagher, F.; Lynch, W.A.
Boulder, Colo. : The Society; 1989.
Proceedings of the ... Annual Meeting, American Solar Energy Society, Inc. p. 243-248. ill; 1989. Meeting held June 19-22, 1989, Denver, Colorado. Includes references.

Language: English

Descriptors: Solar energy; Photovoltaic cells; Electrical energy; Energy conversion; Design

301 NAL Call. No.: TJ810.A1S6
Step-down maximum power point tracker for photovoltaic systems. Salameh, Z.M.; Dagher, F.; Lynch, W.A.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (5): p. 279-282; 1991. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Photovoltaic cells; Electric circuits; Controllers

302 NAL Call. No.: TJ810.A1S6
Stochastic modelling of temperatures affecting the in situ performance of a solar-assisted heat pump: the multivariate approach and physical interpretation.
Loveday, D.L.; Craggs, C.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 289-298; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Heat pumps; Performance; Air temperature; Stochastic models; Multivariate analysis; Heating systems; Residential institutions; Cooling systems; Deterministic models

303 NAL Call. No.: TJ810.A1S6
Stochastic modelling of temperatures affecting the in situ

performance of a solar-assisted heat pump: the univariate approach.

Loveday, D.L.; Craggs, C.

Tarrytown, N.Y. : Pergamon Press; 1992 Oct.

Solar energy v. 49 (4): p. 279-287; 1992 Oct. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Performance; Heat pumps; Stochastic models; Air temperature; Heating systems; Residential institutions; Solar radiation; Mathematical models

304 NAL Call. No.: TJ810.A1S6

Storing concentrated sunlight in the chemical bond: unique stability and internal regulation--a simulative theoretical investigation. Meirovitch, E.; Segal, A.

Elmsford, N.Y. : Pergamon Press; 1991.

Solar energy v. 46 (4): p. 219-229; 1991. Includes references.

Language: English

Descriptors: Solar radiation; Concentrating; Storage; Chemical reactions; Integrated systems

305 NAL Call. No.: TJ810.A1S6

Studies on membrane viscosity stabilized solar pond.

Taga, M.; Matsumoto, T.; Ochi, T.

Elmsford, N.Y. : Pergamon Press; 1990.

Solar energy v. 45 (6): p. 315-324. ill; 1990. Includes references.

Language: English

Descriptors: Solar collectors; Ponds; Polyacrylamide; Solutions; Thickeners; Membranes; Viscosity; Models

306 NAL Call. No.: TJ810.A54 A

study to determine the cost-effectiveness of active solar water heating as a demand-side management measure.

Stein, J.

Boulder, Colo. : The Society; 1992.

Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 115-120; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: New england; Solar energy; Energy conversion; Electrical energy; Cost effectiveness analysis; Consumers; Incentives; Solar collectors

307 NAL Call. No.: S522.U5H37

Sunrise on solar power.

Wasserman, H.

Charlotte, Vt. : Camden House Publishing; 1991 Jan.

Harrowsmith country life v. 6 (31): p. 80-83, 85; 1991 Jan.

Language: English

Descriptors: California; Solar energy; Solar collectors

308 NAL Call. No.: TJ810.S628 1990

Sustainable energy choices for the 90's Conference proceedings : 16th Annual Conference of the Solar Energy Society of

Canada, Halifax, N. S., June 18-20, 1990.
Solar Energy Society of Canada. National Conference 1990 :
Halifax, Nova Scotia); Solar Energy Society of Canada
Ottawa, Canada : Solar Energy Society of Canada,; 1990.
xiv, 353 p. : ill. ; 28 cm. Includes bibliographical
references and index.

Language: English

Descriptors: Solar energy; Natural resources

309 NAL Call. No.: TJ810.A54

Sustained orderly development of the solar electric
technologies: policy guidelines for success.
Aitken, D.W.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 374-379; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: California; Solar energy; Energy conversion;
Electrical energy; Photovoltaic cells; Technology; Development
policy; Renewable resources; Cost analysis; Electrical
equipment

310 NAL Call. No.: TJ810.A54

Symposia on solar progress: looking forward and going
backward. Vories, R.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 3-8; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: U.S.A.; Solar energy; Systems; Consumer
attitudes; Purchasing; Encouragement; Federal programs; State
government; Programs; Homeowners; Residential institutions;
Investment policy; Consumer information; Technology

311 NAL Call. No.: TJ810.A156

System design optimization for large building integrated solar
heating systems for domestic hot water.
Pedersen, P.V.
Tarrytown, N.Y. : Pergamon Press; 1993.
Solar energy v. 50 (3): p. 267-273; 1993. Includes
references.

Language: English

Descriptors: Denmark; Solar collectors; Heating systems; Solar
heating; Water; Design; Optimization

312 NAL Call. No.: TJ810.A54

System-wide impacts of environmental cost factors (1).
Rogers, M.; Kennedy, T.; Finnell, J.; Hoelscher, J.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 359-363; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical
energy; Photovoltaic cells; Environmental protection;
Environmental factors; Cost analysis; Economic evaluation;

Electricity; Environmental impact; Models; Emission

313 NAL Call. No.: TJ810.A156
TAG: a time-dependent, autoregressive, Gaussian model for generating synthetic hourly radiation.
Aguiar, R.; Collares-Pereira, M.
Tarrytown, N.Y. : Pergamon Press; 1992 Sep.
Solar energy v. 49 (3): p. 167-174; 1992 Sep. Includes references.

Language: English

Descriptors: Solar radiation; Weather data; Visibility; Models; Solar energy; Systems; Design

314 NAL Call. No.: TJ810.A156
Technical and economic comparison of electric generations for rural areas. Abenavoli, R.I.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 127-135; 1991. Includes references.

Language: English

Descriptors: Italy; Solar energy; Energy conversion; Photovoltaic cells; Internal combustion engines; Electric motors; Electric power; Rural areas; Costs; Maintenance; Mathematical models

315 NAL Call. No.: TJ810.A54
Technical inspection of 185 active solar heating systems in Colorado. Walker, H.A.; Roper, M.R.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 189-193; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Colorado; Solar energy; Heating systems; Solar collectors; Residential institutions; Inspection; Problem analysis; Household surveys; Equipment; Operation

316 NAL Call. No.: TJ810.A54
Techno-economic evaluation of the potential for solar cold storages in India. Dixit, D.K.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 209-211; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida.

Language: English

Descriptors: India; Solar energy; Utilization; Cold storage; Food storage; Rural areas; Economic analysis

317 NAL Call. No.: TJ810.A156
Temperature, thermal efficiency, and gradient performance from two seawater-SZ solar ponds.
Collado, F.; Lowrey, P.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (6): p. 361-370; 1991. Includes references.

Language: English

Descriptors: California; Solar energy; Solar collectors;

Ponds; Sea water; Performance; Temperature; Thermal efficiency; Gradients

318 NAL Call. No.: TJ810.A1S6
Testing solar water heating systems in Athens, Greece.
Belessiotis, V.; Haralambopoulos, D.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 167-177; 1993 Feb. Includes references.

Language: English

Descriptors: Greece; Solar heating; Systems; Solar collectors; Testing

319 NAL Call. No.: TJ810.A1S6
Testing the thermal performance of uncovered solar collectors.
Soltau, H.
Tarrytown, N.Y. : Pergamon Press; 1992 Oct.
Solar energy v. 49 (4): p. 263-272; 1992 Oct. Includes references.

Language: English

Descriptors: Canada; German federal republic; Solar energy; Solar collectors; Heat; Performance; Standards; Tests; Models

320 NAL Call. No.: TJ810.A1S6
Thermal behaviour of a multi-cavity volumetric solar receiver: design and tests results.
Carotenuto, A.; Reale, F.; Ruocco, G.; Nocera, U.; Bonomo, F.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 113-121; 1993 Feb. Includes references.

Language: English

Descriptors: Solar energy; Heat exchangers; Design; Performance testing

321 NAL Call. No.: TD478.D4
Thermal evaluation of high temperature distillation under an active mode of operation.
Tiwari, G.N.; Lawrence, S.A.
Amsterdam : Elsevier Science Publishers, B.V.; 1992 Feb.
Desalination v. 85 (2): p. 135-145; 1992 Feb. Includes references.

Language: English

Descriptors: Papua new guinea; Solar energy; Solar radiation; Solar collectors; Distillation; Saline water; Desalinization; Models; Equations

322 NAL Call. No.: TJ810.A1S6
Thermal performance and pressure drop of rock beds with large storage materials.
Sagara, K.; Nakahara, N.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (3): p. 157-163; 1991. Includes references.

Language: English

Descriptors: Japan; Solar heating; Heating systems; Thermal energy; Storage; Materials; Rocks; Temperature; Distribution; Friction; Losses; Heat transfer; Models; Air flow; Heat pumps;

Energy; Performance; Computer simulation

323 NAL Call. No.: TJ810.A1S6
Thermal performance assessment of an advanced glazing system.
Robinson, P.; Littler, J.
Tarrytown, N.Y. : Pergamon Press; 1993 Feb.
Solar energy v. 50 (2): p. 124-134; 1993 Feb. Includes
references.

Language: English

Descriptors: Solar collectors; Glazing; Systems; Performance
appraisals; Thermal properties; Simulation models

324 NAL Call. No.: TJ810.A1S6
Thermal performance of packed-bed solar air heaters.
Sharma, S.P.; Saini, J.S.; Varma, H.K.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 59-67; 1991. Includes references.

Language: English

Descriptors: Solar collectors; Air heaters; Heat; Performance

325 NAL Call. No.: TJ810.A1S6
Thermal test procedure for a paraboloid concentrator solar
cooker. Mullick, S.C.; Kandpal, T.C.; Kumar, S.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (3): p. 139-144. ill; 1991. Includes
references.

Language: English

Descriptors: Solar energy; Solar heating; Equipment;
Performance testing; Climatic factors; Heat loss

326 NAL Call. No.: SD111.Q8T4
Timber seasoning in a solar kiln.
Palmer, G.; Kleinschmidt, S.D.
Brisbane : The Department; 1992.
Technical paper - Queensland Department of Forestry (50): 10
p.; 1992. Includes references.

Language: English

Descriptors: Timbers; Drying; Kilns; Solar heating

327 NAL Call. No.: TJ810.A1S6
Total heat transport data for plastic honeycomb-type
structures. Platzer, W.J.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 351-358; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar energy; Solar collectors; Heat; Transport

328 NAL Call. No.: TJ810.A1S6
Transient multidimensional second law analysis of solar
collectors subjected to time-varying insolation with diffuse
components.
Onyegegbu, S.O.; Morhenne, J.
Tarrytown, N.Y. : Pergamon Press; 1993 Jan.
Solar energy v. 50 (1): p. 85-95; 1993 Jan. Includes

references.

Language: English

Descriptors: Solar collectors; Insolation

329 NAL Call. No.: TJ810.A1S6
Transient nocturnal cooling of low thermal capacity radiators.
Swaid, H.
Tarrytown, N.Y. : Pergamon Press; 1992 Dec.
Solar energy v. 49 (6): p. 549-555; 1992 Dec. Includes
references.

Language: English

Descriptors: Solar energy; Cooling systems

330 NAL Call. No.: TJ810.A1S6
Transmission switching using micro-encapsulated liquid crystal
films. Wilson, H.R.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 435-445; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy;
Buildings; Insulation; Insulating materials; Films; Optical
properties; Solar radiation

331 NAL Call. No.: TJ810.A1S6
Transparent evacuated insulation.
Collins, R.E.; Fischer-Cripps, A.C.; Tang, J.Z.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 333-350; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar radiation; Equipment; Coatings; Insulation;
Insulating materials; Glass; Design; Solar energy

332 NAL Call. No.: TJ810.A1S6
Transparent insulation of building facades--steps from
research to commercial applications.
Braun, P.O.; Goetzberger, A.; Schmid, J.; Stahl, W.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 49 (5): p. 413-427; 1992. In the special
issue: Transparent Insulation / edited by A. Goetzberger.
Includes references.

Language: English

Descriptors: Solar energy; Solar radiation; Energy conversion;
Thermal energy; Buildings; Insulating materials;
Transmittance; Physical properties; Mathematical models

333 NAL Call. No.: TJ810.A1S6
Transwall modelling using effective conductivities.
Nisbet, S.K.; Mthembu, N.S.
Tarrytown, N.Y. : Pergamon Press; 1992 Aug.
Solar energy v. 49 (2): p. 127-138; 1992 Aug. Includes
references.

Language: English

Descriptors: Scotland; France; Solar energy; Solar radiation; Absorption; Glass; Conductivity; Efficiency; Models; Heat; Performance; Computer programming

334 NAL Call. No.: TJ810.A1S6
Trial of a self-sufficient cottage.
Fujii, I.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (5): p. 393-403; 1991. Includes references.

Language: English

Descriptors: Japan; Dwellings; Self sufficiency; Systems; Solar collectors; Batteries; Electricity; Generators; Energy conservation; Heat; Storage

335 NAL Call. No.: TJ810.A1S6
Two-dimensional model of direct solar slab-on-grade heating floor. Youcef, L.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 46 (3): p. 183-189; 1991. Includes references.

Language: English

Descriptors: France; Solar heating; Floors; Solar collectors; Equations; Models; Buildings; Thermal properties

336 NAL Call. No.: TJ810.A54
Ultra-high solar flux and applications to laser pumping.
Winston, R.; Cooke, D.; Gleckman, P.; O'Gallagher, J.J.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar Energy Society, Inc. p. 277-281; 1992. Meeting held on June 15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Solar radiation; Concentration; Optical instruments; Applications; Lasers; Pumps

337 NAL Call. No.: 290.9 AM32T
Underground storage of solar energy for greenhouse heating. II. Comparison of seasonal and daily storage systems.
Kurata, K.; Takakura, T.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1991 Sep. Transactions of the ASAE v. 34 (5): p. 2181-2186; 1991 Sep. Includes references.

Language: English

Descriptors: Japan; Greenhouses; Heat conservation; Simulation models; Solar energy; Solar heating

Abstract: Performance of solar energy storage systems which utilize the soil layer under a greenhouse as a thermal storage medium was studied using a numerical simulation model under various conditions. Several modes of system operation, including seasonal and daily storages, were investigated under each condition. In almost every case studied, seasonal storage operation mode did not give positive net energy savings, because large amounts of electric energy were required for heat transfer from solar collectors to the underground (17 to 26 MJ/m² (greenhouse floor) during July and February of the following year). On the other hand, daily storage modes always

gave positive net energy savings. The solar energy storage system was most effective for middle cultivating temperature crops such as cucumber (about three times larger net energy saving than that for tomato cultivation in a daily storage mode) but was useless for high temperature cultivating crops such as paprika. When the greenhouse scale became larger, a larger portion of the required energy for greenhouse heating could be covered by the seasonal storage system but the net energy savings was still negative (about -18 MJ/m²). In cold cites such as Niigata or Sapporo, effect of the heat storage system was negligible. The more effective insulation of the greenhouse surface by thermal screens in the cold season reduced scope for functioning of the storage system.

338 NAL Call. No.: 290.9 AM32T
Underground storage of solar energy for greenhouses heating.
I. Analysis of seasonal storage system by scale and numerical models.
Kurata, K.; Takakura, T.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1991 Mar. Transactions of the ASAE v. 34 (2): p. 563-569; 1991 Mar. Includes references.

Language: English

Descriptors: Greenhouses; Heating; Heat conservation; Soil heating; Solar energy; Solar heating; Storage

Abstract: Possibilities of seasonal storage of solar energy in the soil under a greenhouse have been investigated and compared with those of daily storage. We assumed a system composed of collectors, a greenhouse, pipes connected to the collectors and buried under the greenhouse for water circulation, and another set of underground pipes for greenhouse air circulation. The soil under the greenhosue was assumed not to be insulated. Solar energy collected by collectors from summer through winter is transferred to the soil by circulating water. A scale model experiment showed that the amount of heat recovered is approximately doubled when circulating greenhouse air as needed, compared to the case in which air is not circulated. A numerical experiment showed, however, that under the conditions tested, electric energy consumed in water and air circulations in seasonal storage [18.14 MJ/m² (greenhouse floor)] is greater than the energy saved in greenhouse heating (6.54 MJ/m²), resulting in a negative net energy saving (-11.60 MJ/m²), while the energy saving in daily storage is positive (6.52 MJ/m²). This poor performance of seasonal storage could be attributed to the heat loss through the boundaries of the heat storage region.

339 NAL Call. No.: TK2960.E45 1990
Understanding solar cells.
Elwell, Dennis; Komp, Richard J.
Volunteers in Technical Assistance
Arlington, Va. : VITA,; 1990.
14 p. : ill. ; 28 cm. (Technologies for development ; TP no. 69:02/90). "A VITA technical paper"--P. 1 of cover. Includes bibliographical references (p. 13-14).

Language: English

Descriptors: Solar batteries; Photovoltaic power generation

340 NAL Call. No.: TJ810.A156
Unglazed collector/regenerator performance for a solar assisted open cycle absorption cooling system.
Hawlder, M.N.A.; Novak, K.S.; Wood, B.D.
Tarrytown, N.Y. : Pergamon Press; 1993 Jan.
Solar energy v. 50 (1): p. 59-73; 1993 Jan. Includes

references.

Language: English

Descriptors: Solar collectors; Cooling systems; Liquids;
Absorbents; Heat transfer; Mass transfer

341 NAL Call. No.: TJ810.A54
Uniform flux dish concentrators for photovoltaic application.
Jorgensen, G.; Wendelin, T.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 32-36; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Electrical
energy; Photovoltaic cells; Solar collectors; Design;
Performance; Costs; Models

342 NAL Call. No.: TJ810.A1S6
The use of pressure-retarded osmosis for increasing the solar
pond efficiency. Bemporad, G.A.
Tarrytown, N.Y. : Pergamon Press; 1992.
Solar energy v. 48 (6): p. 375-379; 1992. Includes
references.

Language: English

Descriptors: Solar energy; Ponds; Energy conversion; Pressure;
Osmosis; Efficiency; Improvement

343 NAL Call. No.: TJ810.A54
Using autocad to design a secondary reflecting concentrator
that redirects point-focus flux from a primary concentrator to
the surface of a tubular reactor.
Murray, J.P.; Nelson, S.A.
Boulder, Colo. : The Society; 1992.
Proceedings of the ... Annual Conference, American Solar
Energy Society, Inc. p. 282-287; 1992. Meeting held on June
15-18, 1992, Cocoa Beach, Florida. Includes references.

Language: English

Descriptors: Solar energy; Energy conversion; Solar radiation;
Concentration; Optical instruments; Furnaces; Point sources;
Computer software

344 NAL Call. No.: GB611.A3
Using calpas 3 as a tool to optimize the design of passive
solar desert houses in north Tahrir, Egypt.
Chalfoun, N.V.
Chur, Switzerland : Harwood Academic Publishers; 1991.
Advances in desert and arid land technology and development v.
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Language: English

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Computer techniques

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Language: English

Descriptors: Florida; Photovoltaic cells; Teaching materials;
Energy; High schools; Science education

346 NAL Call. No.: 58.9 IN7
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Ruess, K.; Federer, H.
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Language: English

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Operation

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groundwater. Minasian, A.N.; Al-Karaghoul, A.A.; Hasan, M.;
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Language: English

Descriptors: Solar energy; Groundwater; Desalinization;
Drinking water; Production; Distillation; Instillation;
Construction; Multiple regression; Equations; Environmental
temperature; Air temperature; Wind speed; Solar radiation;
Condensation

348 NAL Call. No.: TJ810.A54
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Language: English

Descriptors: Solar energy; Utilization; Sulfur; Recovery;
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Language: English

Descriptors: Solar energy; Energy conversion; Thermal energy;
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Simulation models; Soil thermal properties; Prediction;

Evaluation; Design; Techniques; Performance; Computer simulation

350 NAL Call. No.: S494.5.E547

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Language: English

Descriptors: Water; Desalinization; Solar energy; Mathematical models; Equations

351 NAL Call. No.: TJ810.A54

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Boulder, Colo. : The Society; 1990.

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Language: English

Descriptors: Solar energy; Water; Desalinization

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Language: English

Descriptors: Water; Heating systems; Solar energy; Electric power; Steam

353 NAL Call. No.: TJ810.A1S6

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Language: English

Descriptors: Solar collectors; Photovoltaic cells; Wind tunnels; Eolian deposits; Dust

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Language: English

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