

CURRICULUM VITAE AND LIST OF PUBLICATIONS

Avraham I. Kudish

Education

B.Sc. The Cooper Union for the Advancement of Science and Art, New York, N.Y.
Department of Chemical Engineering.

Ph.D. Polytechnic Institute of Brooklyn, Brooklyn, NY
Polymer Institute, Department of Chemistry

Scientific Publications

1. **A.I. Kudish**, D. Wolf and F. Steckel, Physical Properties of Heavy-Oxygen Water. The Absolute Viscosity of H₂¹⁸O between 15 and 35°C. *J.C.S. Faraday Trans. I.* **68**, 2041-2046 (1972).
2. **A.I. Kudish**, D. Wolf and S. Pinchas, The Effects of H₂¹⁸O on the pH of Phosphoric Acid Solutions. *J. Inorg. Nucl. Chem.* **35**, 3637-3638 (1973).
3. **A.I. Kudish**, D. Wolf and F. Steckel, Physical Properties of Oxygen-17 Water. The Absolute Viscosity and Density of H₂¹⁷O between 15 and 35°C. *J.C.S. Faraday Trans. I.* **70**, 474-489 (1974).
4. **A.I. Kudish** and D. Wolf, Absolute Viscosity of D₂¹⁸O between 15 and 35°C. *J. Phys. Chem.* **79**, 272-275 (1975).
5. D. Wolf and **A.I. Kudish**, Absolute Viscosity of D₂¹⁸O between 15 and 35°C. *J. Phys. Chem.* **79**, 1481 (1975).
6. **A.I. Kudish** and D. Wolf, A Compact Shallow Solar Pond Hot Water Heater. *Solar Energy* **21**, 317-322 (1978).
7. D. Wolf, A. Tamir and **A.I. Kudish**, A Central Solar Domestic Hot Water System. Performance and Economic Analysis. *Energy* **5**, 191-205 (1980).
8. D. Wolf and **A. I. Kudish**, The Effect of Isotope Substitution on the Viscosity of Water-Methanol Mixtures at 25°C. *J. Phys. Chem.* **84**, 921 (1980).
9. **A.I. Kudish**, Sede Boqer Shallow Solar Pond Project. *Energy* **6**, 277-292 (1981).
10. D. Wolf, **A.I. Kudish** and A. Sembira, Dynamic Simulation and Parametric Sensitivity Studies on a Flat Plate Solar Collector. *Energy* **6**, 333 (1981).
11. **A.I. Kudish** and D. Wolf, Recent Advances in the Use of Solar Energy in Israel. (An invited review article) *Atti della Fondazione Girogio Ronchi* **36**, 305-347 (1981).
12. **A.I. Kudish**, D. Wolf and Y. Machlav, A Novel Approach for Calculating the Monthly Average Daily Fraction of Diffuse Solar Radiation. *Solar Energy* **28**, 181-186 (1982).
13. Y. David, J. Porat, **A.I. Kudish** and S.B. Lang, Integrating Spherical Reflectometer: An Undergraduate Research Project. *The Physics Teacher* **20**, 254-256 (1982).
14. **A.I. Kudish**, J. Gale and Y. Zarmi, A Low Cost Design Solar Desalination Unit. *Energy Conversion and Management* **22**, 269-274 (1982).
15. **A.I. Kudish**, D. Wolf and Y. Machlav, Solar Radiation Data for Beer Sheva, Israel. *Solar Energy* **30**, 33-37 (1983).
16. D. Wolf, A.N. Sembira and **A.I. Kudish**, Dynamic Simulation and Parametric Sensitivity Studies on a Central Solar Domestic Hot Water System. *Energy* **9**, 169-181 (1984).
17. **A.I. Kudish**, J. Gale and Y. Zarmi, Solar Desalination in Conjunction with Controlled Environment Agriculture in Arid Zones. *Proc. The Solar Energy Conference - 1985* (ASME Solar Energy and ASES Engineering Divisions), Knoxville, TN, Mar. 1985, pp. 117-122.
18. **A.I. Kudish**, P. Santamura and P. Beaufort, Direct Measurement and Analysis of Thermosiphon Flow. *Solar Energy* **35**, 167-173 (1985).

- 19.A. Rudnick, Y. Kaplan, **A.I. Kudish** and D. Wolf, A Study of Collector Aging, Installation and Material Problems. *Solar Energy* **36**, 227-240 (1986). Awarded the **1986 Löff-Duffie Best Paper Award** by the International Solar Energy Society
20. **A.I. Kudish** and J. Gale, Solar Desalination in Conjunction with Controlled Environment Agriculture in Arid Zones. *Energy Conversion and Management* **26**, 201-207 (1986).
21. **A.I. Kudish** and A. Ianetz, Evaluation of the Relative Ability of Three Models, the Isotropic, Klucher and Hay, to Predict the Global Radiation in Beer Sheva, Israel. *Energy Conversion and Management* **32**, 387-394 (1991).
22. **A.I. Kudish** and A. Ianetz, Analysis of the Solar Radiation Data for Beer Sheva, Israel and Its Environs. *Solar Energy* **48**, 97-106 (1992).
23. A. Ianetz and **A.I. Kudish**, Correlations between Values of Daily Beam, Diffuse and Global Radiation for Beer Sheva, Israel. *Energy* **17**, 523-533 (1992).
24. **A.I. Kudish** and A. Ianetz, Analysis of Diffuse Radiation Data for Beer Sheva: Measured (Shadow Ring) vs. Calculated (Global - Horizontal Beam) Values. *Solar Energy* **51**, 495-503 (1993).
25. A. Ianetz and **A.I. Kudish**, Correlations between Values of Daily Horizontal Beam and Global Radiation for Beer Sheva, Israel. *Energy* **19**, 751-764 (1994).
26. A. Ianetz and **A.I. Kudish**, Empirical correlations between global radiation and its components for Beer Sheva, Israel. *Israel Meteorological Research Papers* **5**, 28-36 (1994).
27. **A.I. Kudish** and A. Ianetz, Analysis of daily clearness index, global and beam radiation for Beer Sheva, Israel: Partition according to day type and statistical analysis. *Energy Conversion and Management* **37**, 405-416 (1996).
28. A.P. Kushelevsky and **A.I. Kudish**, Inter comparison of global, UVB and UVA radiation measurements in the Dead Sea Region (Ein Bokek) and Beer Sheva. *Israel J. Medical Science* **32S**, 24-27 (1996).
29. M.M. Aboabboud, L. Horváth, G. Mink, M. Yasin, and **A.I. Kudish**, An energy saving atmospheric evaporator utilizing low grade thermal or waste energy. *Energy* **21**, 1107-1117 (1996).
30. M.M. Aboabboud, L. Horváth, J. Szépvölgyi, G. Mink, E. Radhika, and **A.I. Kudish**, The use of a thermal energy recycle device in conjunction with a basin-type solar still for enhanced productivity. *Energy* **22**, 83-91 (1997).
31. **A.I. Kudish**, E. Evseev and A.P. Kushelevsky, The analysis of ultraviolet radiation in the Dead Sea Basin. *Int'l. J. Climatology* **17**, 1697-1704 (1997).
32. A.P. Kushelevsky, M. Harari, **A.I. Kudish**, E. Hristakieva, A. Ingber and J. Shani, Safety of solar phototherapy at the Dead Sea. *J. Amer. Acad. Dermatology* **38**, 447-452 (1998).
33. G. Mink, L. Horváth, E.G. Evseev and **A.I. Kudish**, Design parameters, performance testing and analysis of a double-glazed, air-blown solar still with thermal energy recycle. *Solar Energy* **64**, 265-277 (1998).
34. **A.I. Kudish** and E.G. Evseev, Statistical relationships between solar UVB and UVA radiation and global radiation measurements at two sites in Israel. *Int'l. J. Climatology* **20**, 759-770 (2000).
35. A. Ianetz, V. Lyubansky, I. Setter, E.G. Evseev and **A.I. Kudish**, A method for characterization and inter-comparison of sites with regard to solar energy utilization by statistical analysis of their solar radiation data as performed for three sites in the Negev region of Israel. *Solar Energy* **69**, 283-293 (2000).
- *36. A. Ianetz, V. Lyubansky, E.G. Evseev and **A.I. Kudish**, Correlations for determining the daily diffuse radiation as a function of daily beam radiation on a horizontal surface in the semi-arid region of Israel. *Theoretical and Applied Climatology* **69**, 213-220 (2001).
37. **A.I. Kudish**, E.G. Evseev, G. Walter and T. Leukefeld, A simulation study of a solar collector with a selectively coated polymeric double-walled absorber plate. *Energy Conversion and Management* **43**, 651-671(2002).

38. **A.I. Kudish**, E.G. Evseev, G. Walter and T. Priebe, A simulation study on a solar desalination system utilizing an evaporator/condenser chamber. *Energy Conversion and Management* **44**,1653-1670(2003).
39. **A.I. Kudish**, E.G. Evseev, G. Walter and T. Priebe, A coaxial tubular solar collector constructed from polymeric materials: An experimental and transient simulation study. *Energy Conversion and Management* **44**,2549-2566(2003).
40. **A.I. Kudish**, D. Abels and M. Harari, Ultraviolet radiation properties as applied to photoclimate therapy at the Dead Sea. *International Journal of Dermatology*, **42**,359-365(2003).
41. **A.I. Kudish**, V. Lyubansky, E.G. Evseev and A. Ianetz, Inter-comparison of Solar UVB, UVA and Global Radiation Clearness Indices and UV Indices for Beer Sheva and Neve Zohar (Dead Sea), Israel. *Energy* **30**,1623-1641(2005).
42. **A.I. Kudish**, V. Lyubansky, E.G. Evseev and A. Ianetz, Statistical analysis and inter-comparison of the solar UVB, UVA and global radiation for Beer Sheva and Neve Zohar (Dead Sea), Israel. *Theoretical and Applied Climatology* **80**,1-15(2005).
43. **A.I. Kudish** and E.G. Evseev, Barometric pressure, dry bulb temperature and vapor pressure at the lowest terrestrial site on earth, Dead Sea basin, Neve Zohar, Israel. *Theoretical and Applied Climatology* **84**,243-251(2006).
44. A. Ianetz, V. Lyubansky, I. Setter, B. Kriheli, E.G. Evseev and **A.I. Kudish**. Inter-comparison of different models for estimating clear sky solar global radiation for the Negev Region of Israel. *Energy Conversion and Management* **48**,259-268(2007).
45. **A.I. Kudish** and E.G. Evseev, The assessment of four different correction models applied to the diffuse radiation measured with a shadow ring using global and normal beam radiation measurements for Beer Sheva, Israel. *Solar Energy* **82**,144-156(2008).
46. E.G. Evseev and **A.I. Kudish**, An assessment of a revised Olmo et al. model to predict solar global radiation on a tilted surface at Beer Sheva, Israel. *Renewable Energy*, **34**,112-119(2009).
47. E.G. Evseev and **A.I. Kudish**, The assessment of different methods to predict the global solar radiation on a surface tilted to the south. *Solar Energy*, **83**,377-388(2009).
48. E. Azizi, F. Pavlotsky, I. Vered and **A.I. Kudish**, Occupational Exposure to Solar UVB and Seasonal Monitoring of Serum Levels of 25-Hydroxy Vitamin D3: A Case-Control Study. *Photochemistry & Photobiology* **85**,1240-1244(2009).
49. **A.I. Kudish**, The measurement and analysis of UV radiation and its use in optimizing treatment protocols for photoclimate therapy of psoriasis at the Dead Sea medical spas. *Journal of Dead Sea and Arava Research*, **1**,1-13(2009). Available at: <http://deadseearava-rd.co.il>.
50. **A.I. Kudish** and E.G. Evseev, The analysis of solar UVB radiation as a function of solar global radiation, ozone layer thickness and aerosol optical density. *Renewable Energy*, **36**,1854-1869(2011).
51. **A.I. Kudish**, M. Harari and E.G. Evseev, The measurement and analysis of the normal incidence solar UVB radiation and its application to the photoclimate therapy protocol for psoriasis at the Dead Sea, Israel. *Photochemistry & Photobiology*, **87**,215-222(2011).
52. **A.I. Kudish**, M. Harari and E.G. Evseev, The solar UVB radiation protection provided by shading devices with regard to its diffuse component. *Photodermatology, Photoimmunology & Photomedicine*, **27**,236-244(2011).
53. **A.I. Kudish** and E.G. Evseev, UVB irradiance and atmospheric optical depth at the Dead Sea, Israel: Measurements and modeling. *Renewable Energy*, **48**,344-349(2012).
54. E. Azizi, F. Pavlotsky, **A. Kudish**, P. Flint, A. Solomoa, Y. Lerman, Oberman and S. Sadetzki, Serum levels of 25-hydroxy-vitamin D3 among sun-protected outdoor workers in Israel. *Photochemistry & Photobiology* **88**,1507-1512(2012).
55. **A.I. Kudish**, UV – radiation properties at the Dead Sea. *Anales de Hidrologia Medica*, **5**,21-38(2012).

56. D. Mateos, J. Bilbao, **A.I. Kudish**, A.V. Parisi, G. Carbajal, A. di Sarra, R. Román, A. de Miguel, Validation of OMI satellite erythematous daily dose retrievals using ground-based measurements from fourteen stations. *Remote Sensing of Environment*, **128**,1-10(2013).
57. **A.I. Kudish** and E.G. Evseev, Analysis of UVB and UVA radiation at Beer Sheva, Israel from 1994 through 2012. *Renewable Energy*, **63**,84-89(2013).

Books

1. **A.I. Kudish**. and Eirich, F.R., The Adsorption of Gelatin at Solid-Liquid Interfaces. Chapter 17 in: J.L. Brash and T. Horbett (Editors) Proteins at Interfaces: Physicochemical and Biochemical Studies, American Chemical Society Symposium Series 343, 1987, pp. 261 - 277.
2. **A.I. Kudish**, Water Desalination. Chapter 8 in: B.F. Parker (Editor) Solar Energy in Agriculture-Energy in World Agriculture, Vol. 4, Elsevier Science Publishers B. V., Amsterdam, 1991, pp. 255 - 294.
3. A. Ianetz and **A.I. Kudish**, A Method for Determining the Solar Global and Defining the Diffuse and Beam Irradiation on a Clear Day. Chapter 4 in: V. Badescu (Editor) Modeling of Solar Radiation at the Earth's Surface, Springer, Germany, 2008, pp. 93-113.