

GLACIOLOGICAL LITERATURE

THIS is a selected list of glaciological literature on the scientific study of snow and ice and of their effects on the earth; for the literature on polar expeditions, and also on the "applied" aspects of glaciology, such as snow ploughs, readers should consult the bibliographies in each issue of the *Polar Record*. For Russian material the system of transliteration used is that agreed by the U.S. Board on Geographic Names and the Permanent Committee on Geographical Names for British Official Use in 1947. Readers can greatly assist by sending reprints of their publications to the Society, or by informing Dr J. W. Glen of publications of glaciological interest. It should be noted that the Society does not necessarily hold copies of the items in this list, and also that the Society does not possess facilities for microfilming or photocopying.

CONFERENCES

ŌURA, H., ed. *Physics of snow and ice: international conference on low temperature science. I. Conference on physics of snow and ice. II. Conference on cryobiology. August 14-19, 1966, Sapporo, Japan. (Twenty-fifth anniversary, the Institute of Low Temperature Science.) Proceedings*, Vol. 1. [Sapporo]: Institute of Low Temperature Science, Hokkaido University, 1967. 2 parts: xxix, 711 p.; xiii, 713-1414 p. [For details of papers see elsewhere in this list.]

GENERAL GLACIOLOGY

- ASTAPENKO, P. D., and TRESHNIKOV, A. F. Inter-relationship between meteorology, oceanography and glaciology in Antarctic studies. *Annals of the International Geophysical Year*, Vol. 44, 1967, p. 96-121. [Survey of work done during I.G.Y. and interrelation of results of these three disciplines.]
- DUBOVSKOY, B. V. Kartograficheskiye issledovaniya SSSR v Antarktide za 10 let [Cartographic investigations of the U.S.S.R. in Antarctica for the past 10 years]. *Antarktika. Doklady Komissii 1965 g.* Moscow, Izdatel'stvo Akademii Nauk SSSR, 1966, p. 130-67. [Details of activity and accuracy of programme.]
- HARRISON, H., and SCHOEN, R. I. Evaporation of ice in space: Saturn's rings. *Science*, Vol. 157, No. 3793, 1967, p. 1175-76. [Estimate of rate of ice evaporation in space due to non-thermal processes and question of whether Saturn's rings could be ice.]
- IVANOV, V. B. Osnovnyye itogi sovetzkikh glyatsiologicheskikh issledovaniy v Antarktide za 10 let (1956-1966 gg.) [The main results of Soviet glaciological research in Antarctica over the past 10 years (1956-1966)]. *Informatsionnyy Byulleten' Sovetskoy Antarkticheskoy Ekspeditsii*, No. 60, 1967, p. 5-15.
- PESHANSKIY, I. S. *Ledovedeniye i ledotekhnika. Izdaniye 2-ye, dopolnennoye i pererabotannoye* [Glaciology and ice technology, 2nd edition, augmented and revised]. Leningrad, Gidrometeorologicheskoye Izdatel'stvo, 1967. 462 p. [Ice physics, with special reference to floating ice.]
- SLUPETZKY, H., and others. 16. Kurs für Hochgebirgs- und Polarforschung (Obergurgl, Tirol, 18.-25. September 1966), [von] H. und W. Slupetzky, D. Resmann. *Mitteilungen der Österreichischen Geographischen Gesellschaft*, Bd. 108, Ht. 2-3, 1966, p. 309-13. [Account of this course and its numerous glaciological papers.]
- [U.S.S.R.: GLACIOLOGY.] *Soobshcheniye o nauchnykh rabotakh po glyatsiologii 1963-1966 gg.* [Report on scientific work in glaciology, 1963-66]. Moscow, Sovetskiy Geofizicheskiy Komitet, 1967. 31 p. [Soviet work and publications.]
- WOOD, P. H. *Arctic research in western Europe; a directory of institutions*. Washington, D.C., Arctic Institute of North America, 1967. vii, 296 p. [Listing of polar research institutions in 11 countries with brief descriptions of nature and scope of their interests.]

GLACIOLOGICAL INSTRUMENTS AND METHODS

- BEAUMONT, R. T. Field accuracy of volumetric snow samplers at Mt. Hood, Oregon. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 2. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 1007-13.) [Tests on different kinds of samplers.]
- BILELLO, M. A., and PARROTT, W. H. Some new or experimental equipment for use on snow and ice. *Proceedings of the Eastern Snow Conference*, Vol. 12, 1967, p. 1-14. [Describes: (1) nuclear technique to measure snow density, (2) snow disaggregator, (3) ice chipper, (4) soniscope, (5) modified Rammsonde, and (6) snow permeameter.]
- BOGORODSKIY, V. V., ed. *Primeneniye radiofizicheskikh metodov v okeanograficheskikh i ledovykh issledovaniyakh* [Use of radiophysical methods in oceanography and ice investigations]. Leningrad, Arkticheskii i Antarkticheskii Nauchno-Issledovatel'skiy Institut, 1965. 106 p. [Includes following papers presented at the first All-Union Conference on the Use of Radiophysical Methods in Oceanography and Ice Observations held in Leningrad, 23-24 January 1964: E. P. Borisenkov, "First All-Union Conference on the Use of Radiophysical Methods in Oceanography and Ice Observations and its problems"; V. V. Bogorodskiy and V. N. Rudakov, "Use of polarization and interference of electromagnetic waves for determining the thickness of sea ice"; V. N. Rudakov, "Flaw detection in snow and ice cover with the aid of electromagnetic waves"; V. V. Bogorodskiy and V. N. Rudakov, "Electromagnetic parameters of snow, ice, fresh and sea water"; V. S. Loshchilov and V. I. Shil'nikov, "Use and prospects of the radar method in aerial reconnaissance of ice"; V. V. Bogorodskiy and others, "Electrical phenomena which arise during water crystallization"; V. N. Tsvetkov, "Investigation of micro-nonhomogeneities in the water layer just beneath the ice in the Arctic"; L. I. Chapurskiy, "Detection of clouds against a snow background"; F. I. Melkov and P. A. Rublev, "Use of infra-red equipment during observations of ice conditions".]

- BRICHKIN, A. V., and others. Ognevoye bureniye lednikov v vysokogornyykh usloviyakh [High temperature boring in glaciers under high-mountain conditions]. [By] A. V. Brichkin, S. V. Mikheyev [and] A. V. Boyev. *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva*, Tom 99, Vyp. 2, 1967, p. 147-48. [Method for deep drilling in glaciers in summer.]
- CLOTHIER, W. C. Microscope for use at temperatures near -190°C . *Journal of Scientific Instruments*, Vol. 44, No. 7, 1967, p. 535-36. [Microscope used for visual observation of ice formation.]
- HIGASHI, A., and OGURO, M. Hikiage-hō ni yoru hyō-tankesshō no seisaku (1). Kōgakuteki kanzen tankesshō to teni [Growth of large ice single crystals from water (1). Optically perfect crystals and dislocations]. *Ōyō Butsuri*, [Vol.] 36, [No.] 12, 1967, p. 988-94. [Method of growth avoiding bubbles, vapour figures, and low-angle grain boundaries. Determination of dislocation densities.]
- HINDMAN, E. E., jr., and RINKER, R. L. Continuous snowfall replicator. *Journal of Applied Meteorology*, Vol. 6, No. 1, 1967, p. 126-33. [Method of studying individual snow crystals and their concentration.]
- MARTINELLI, M., jr. New snow-measuring instruments. (In Sopper, W. E., and Lull, H. W., ed. *Forest hydrology: proceedings of a National Science Foundation advanced science seminar held at the Pennsylvania State University . . . , Aug. 29-Sept. 10, 1965*. Oxford and New York, Pergamon Press, 1966, p. 797-800.) [Brief discussion on eight instruments for measuring hydrological strength and mechanical properties of snow, on the basis of published reports.]
- NAKAMURA, T. Netsuban ni yoru sekisetsu usuita no sakusei [Preparation of thin layers of snow by means of heated plates]. *Teion-kagaku: Low Temperature Science*, Ser. A, [No.] 24, 1966, p. 133-37. [Method for making thin sections for structural studies.]
- SEKUROV, A. V. Osobennosti razrabotki elektrotermoburovogo kompleksa dlya bureniya l'da i rezul'taty yego ispytaniy v Mirnom v 1965-66 [Characteristics of electrothermal boring unit for ice drilling and results of its use at Mirny in 1965-66]. *Informatsionnyy Byulleten' Sovetskoy Antarkticheskoy Ekspeditsii*, No. 60, 1967, p. 59-62.
- SMITH, J. L., and WILLEN, D. W. Gamma-transmission profiling radioisotope snow density and depth gage. *Proceedings of the Western Snow Conference*, 34th annual meeting, 1966, p. 69-77. [Apparatus described. Easily portable and may be remote-controlled.]
- WARNER, O. R. Precipitation gages—types, methods and uses. *Proceedings of the Western Snow Conference*, 34th annual meeting, 1966, p. 78-81. [Describes gauges used by U.S. Weather Bureau, and mentions new developments.]
- WATANABE, Z. Mould of deposited snow. (In Ōura, H., ed. *Physics of snow and ice . . .* Vol. 1, Pt. 2. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 741-50.) [Method of making a plaster of Paris mould around snow to allow its structure to be studied later at room temperature.]
- YOSIDA, Z. Free water content of wet snow. (In Ōura, H., ed. *Physics of snow and ice . . .* Vol. 1, Pt. 2. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 773-84.) [History of development of calorimeter now in use to measure this, and details of the instrument.]

PHYSICS OF ICE

- BARDUHN, A. J. Desalination by crystallization processes. *Chemical Engineering Progress*, Vol. 63, No. 1, 1967, p. 98-103. [Review of progress since 1965 in desalination of sea-water by freezing and hydrate processes.]
- BARZYNSKI, H., and SCHULTE-FROHLINDE, D. On the nature of the electron traps in alkaline ice. *Zeitschrift für Naturforschung*, Bd. 22a, Ht. 12, 1967, p. 2131-32. [Nature of electron traps formed by γ -irradiation in frozen NaOH solutions. The effect is large only in amorphous solids.]
- BEAUBOUF, R. T., and CHAPMAN, A. J. Freezing of fluids in forced flow. *International Journal of Heat and Mass Transfer*, Vol. 10, No. 11, 1967, p. 1581-87. [Theoretical study of freezing of ice from water flowing past a cold surface. French, German and Russian abstracts.]
- BENNETT, J. E., and others. Trapped electrons produced by the deposition of alkali metal atoms on ice and solid alcohols at 77°K . I. Optical spectra and electron spin resonance spectra, by J. E. Bennett, B. Mile and A. Thomas. *Journal of the Chemical Society*, Sect. A, 1967, No. 9, p. 1393-99. [Deposition yields intensely coloured deposit whose spectra show structure due to interaction of electron with H atoms.]
- BONDOT, P. Étude du spectre de diffraction des rayons X par une glace vitreuse. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences (Paris)*, Tom. 265, Sér. B, No. 5, 1967, p. 316-18. [Comparison between X-ray diffraction pattern of vitreous ice and that of water.]
- BREY, W. S., jr., and WILLIAMS, H. P. Dielectric properties of ice and water clathrates. *Journal of Physical Chemistry*, Vol. 72, No. 1, 1968, p. 49-52. [Measurement in audio-frequency range between -30° and $+2^{\circ}\text{C}$. Clathrates show distribution of relaxation times and higher frequency loss maximum.]
- BRIAN, P. L. T., and others. Vapor-flow limitations in a melter-condenser, [by] P. L. T. Brian, K. A. Smith, and L. W. Petri. *Industrial and Engineering Chemistry. Process Design and Development*, Vol. 7, No. 1, 1968, p. 21-25. [Model for melting of ice crystals by direct contact with a condensing vapour.]
- BROMER, D. J., and KINGERY, W. D. Flow of polycrystalline ice at low stresses and small strains. *Journal of Applied Physics*, Vol. 39, No. 3, 1968, p. 1688-91. [Tests on columnar ice in tension perpendicular to column axis. Results interpreted in terms of Nabarro-Herring creep with diffusion enhanced by grain-boundaries.]
- BULLEMER, B., and RIEHL, N. Hall-Effekt an Protonen in Eis. *Physik der kondensierten Materie*, Bd. 7, Ht. 3, 1968, p. 248-60. [Allowing for surface conductivity, the Hall coefficient for protons in ice has been measured. The high mobility is interpreted in terms of correlated jumps.]
- CAMP, P. R., and SPEARS, D. L. Conductivity changes produced in ice by optical irradiation 0.8 to 2.7 μ . (In Ōura, H., ed. *Physics of snow and ice . . .* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 181-206.) [Experiments showing that optical irradiation applied to ice did not create electrical point defects.]

- DE MICHELI, S. M. DE, and LICENBLAT, A. R. Experimental study of the evaporation of ice in controlled conditions of subsaturation. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 259-66.) [Study of evaporation rate and surface morphology of ice evaporating under controlled conditions.]
- DILLON, H. B., and ANDERSLAND, O. B. Deformation rates of polycrystalline ice. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 313-27.) [Compressive creep and constant strain-rate tests. Deduction of flow law and activation energy.]
- DRAKE, J. C. Electrification accompanying the melting of ice particles. *Quarterly Journal of the Royal Meteorological Society*, Vol. 94, No. 400, 1968, p. 176-91. [Laboratory observation of convection currents in partly frozen droplets and of electric charging due to bubbles bursting after transference to the surface.]
- DYE, J. E., and HOBBS, P. V. The influence of environmental parameters on the freezing and fragmentation of suspended water drops. *Journal of the Atmospheric Sciences*, Vol. 25, No. 1, 1968, p. 82-96. [Discussion of factors which might affect freezing behaviour, and laboratory experiments to show when splintering and shattering occur.]
- EDWARDS, G. R., and EVANS, L. F. Ice nucleation by silver iodide. III. The nature of the nucleating site. *Journal of the Atmospheric Sciences*, Vol. 25, No. 2, 1968, p. 249-56. [Number of sites nucleating ice by freezing mechanism and by sorption at water saturation found experimentally.]
- EIHEN, K., and TAUB, I. A. Solvated electron spectrum in irradiated ice. *Nature*, Vol. 216, No. 5117, 1967, p. 782-83. [Observation after intense γ -irradiation at 77°K.]
- GABARASHVILI, T. G., and GLIKI, N. V. Vozniknoveniye ledyanoy fazy v pereokhlazhdennoy vode pod vliyaniyem elektricheskoi zaryazhennykh kristallov kholsterol i naftalina [The origin of the ice phase in supercooled water under the influence of electrically charged cholesterol and naphthalene crystals]. *Izvestiya Akademii Nauk SSSR. Fizika Atmosfery i Okeana*, Tom 3, No. 5, 1967, p. 570-74. [Experiment to show that charged crystals are more effective nuclei, and theory of effect. English translation in *Izvestiya, Academy of Sciences, U.S.S.R., Atmospheric and Oceanic Physics*, Vol. 3, No. 5, 1967, p. 324-27.]
- GENADIEV, N. Interdependence between cooling rate and freezing temperature of waterdrops on metal plate. *Comptes Rendus de l'Académie Bulgare des Sciences*, Tom. 20, No. 12, 1967, p. 1271-74. [Experimental results, comparison with work of Gokhale, and theoretical discussion.]
- GHORMLEY, J. A. Enthalpy changes and heat-capacity changes in the transformations from high-surface-area amorphous ice to stable hexagonal ice. *Journal of Chemical Physics*, Vol. 48, No. 1, 1968, p. 503-08. [Measurements indicate that ice Ic has higher heat capacity, and may be stable form of ice at low temperatures.]
- GILRA, N. K., and others. Ultrasonic absorption by ice crystals in supercooled water. [by] N. K. Gilra, N. Dass and N. C. Varshneya. *Journal of the Physical Society of Japan*, Vol. 24, No. 2, 1968, p. 380-82. [Theoretical study of variation of absorption with frequency, crystal size and kinematic viscosity, and effect of ultrasound on growth.]
- GLEN, J. W., and JONES, S. J. The deformation of ice single crystals at low temperatures. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 267-75.) [Tensile creep tests on ice single crystals from -50° to -70°C. Deduction of flow law and slip direction.]
- GOLD, L. W. Time to formation of first cracks in ice. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 359-70.) [Observations used to determine activation energy. Results consistent with dislocation pile-up theories of crack nucleation.]
- HIGASHI, A. Mechanisms of plastic deformation in ice single crystals. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 277-89.) [Dislocation mechanism of slip of ice single crystals. Difference of behaviour in basal and non-basal glide.]
- HIGUCHI, K., and YOSIDA, T. Crystallographic orientation of frozen droplets on ice surfaces. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 79-93.) [Photogrammetric measurements on snow particles consisting of several single crystals show crystallographic relations between orientations.]
- HILL, M. J., and WYARD, S. J. Low frequency electron spin resonance of irradiated ice and frozen solutions of hydrogen peroxide. *Journal of Physics B*, Ser. 2, Vol. 1, No. 2, 1968, p. 289-94. [Study at 280 MHz and comparison with other data of spectrum attributed to OH in ice.]
- HOGAN, A. W. Ice nuclei from direct reaction of iodine vapor with vapors from leaded gasoline. *Science*, Vol. 158, No. 3802, 1967, p. 800. [Large numbers of ice nuclei active at < -15°C generated by mixing iodine vapour with vapours from petrol if, and only if, the petrol contains lead.]
- ITAGAKI, K. Particle migration on ice surfaces. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 233-46.) [Observations of small glass beads on ice surfaces show migration and clustering when atmosphere is unsaturated.]
- JACCARD, C. Electrical conductivity of the surface layer of ice. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 173-79.) [Measurement of surface conductivity and effect of an air stream on it.]
- KOBAYASHI, T. On the variation of ice crystal habit with temperature. (*In* Ōura, H., ed. *Physics of snow and ice* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 95-104.) [Experiments on surface migration of water molecules on ice agree with Mason's results rather than Hallett's.]
- KRASTANOV, L., and others. On the ice-forming activity of the walls of an ice crystal, [by] L. Krastanov, G. Miloshev [and] L. Levkov. *Comptes Rendus de l'Académie Bulgare des Sciences*, Tom. 20, No. 9, 1967, p. 915-18. [Theory of nucleation of 2-dimensional ice embryos on plane ice surfaces.]
- LANGER, G., and others. Ice nucleation efficiency of silver iodide at -20°C on a particle count basis, [by] G. Langer, A. Lieberman and J. Rosinski. *Journal of Applied Meteorology*, Vol. 6, No. 5, 1967, p. 963-65. [Results show anomalously low number of particles are active as nuclei.]

- LEVI, L. Electrical properties of ice doped with different electrolytes. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 159-72.) [Study of d.c. conductivity of ice doped with HF and other hydracids, NH₃ and also NH₃ and HF together. Interpretation in terms of defect mobility.]
- LEVI, L., and GAVANOVICH, S. Helical whiskers of ice. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 43-50.) [Observation of whiskers formed in cold formvar solutions.]
- LUYET, B. Attacks from different fronts on some complex cases of instability in aqueous solutions solidified at low temperatures. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 71-78.) [Use of differential thermal analysis, dielectric measurements and X-ray diffraction.]
- LUYET, B. Various modes of recrystallization of ice. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 51-70.) [Description of various structural changes occurring in aqueous solutions solidified at low temperatures.]
- MACKLIN, W. C., and PAYNE, G. S. Some aspects of the accretion process. *Quarterly Journal of the Royal Meteorological Society*, Vol. 94, No. 400, 1968, p. 167-75. [Experimental and theoretical studies of process of ice accretion from supercooled water droplets.]
- MACKLIN, W. C., and RYAN, B. F. Growth velocities of ice in supercooled water and aqueous sucrose solutions. *Philosophical Magazine*, Eighth Ser., Vol. 17, No. 145, 1968, p. 83-87. [Measurement of component velocities of growth parallel and perpendicular to basal plane with up to 10 deg of supercooling.]
- MAENO, N. Air bubble formation in ice crystals. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 207-18.) [Investigation of formation of air bubbles in natural and artificial ice crystals and mode of their formation and metamorphosis.]
- MAENO, N. Nuclei of Tyndall figures and surface melting of ice. *Canadian Journal of Physics*, Vol. 46, No. 4, 1968, p. 313-15. [Attempt to identify nuclei. Submicroscopic gaseous inclusions are favoured.]
- MAENO, N. Suihyōkaimen ni okeru kihō no hassei to hosoku [Air bubbles in ice, nucleated and trapped at an ice-water interface]. *Teion-kagaku: Low Temperature Science*, Ser. A, [No.] 24, 1966, p. 91-109. [Microscopic observations. English summary.]
- MAGONO, C., and SHIO, H. Frictional electrification of ice and change in its contact surface. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 137-50.) [Explanation of frictional electrification when ice is rubbed on ice. Above -5°C the sign of the effect changes.]
- MASCARENHAS, S., and ARGUELLO, C. Studies on HF-doped ice thermo-electrets. *Journal of the Electrochemical Society*, Vol. 115, No. 4, 1968, p. 386-88. [Electrets prepared at -10° to -135°C and stored charge measured.]
- MELLOR, M., and SMITH, J. H. Creep of ice and snow. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 2. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 843-55.) [Constant load compressive creep tests on sintered snow and bubbly polycrystalline ice.]
- MICHEL, B. From the nucleation of ice crystals in clouds to the formation of frazil ice in rivers. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 129-36.) [Use of heterogeneous nucleation theory to explain supercooling of water droplets and large water bodies.]
- NAKAMURA, T. A water-like film produced by pressure on the surface of ice crystals. (*In* Ōura, H., ed. *Physics of snow and ice* . . . Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 247-58.) [Observation of glass plate pressed against ice showed water-like film down to -30°C.]
- ODENGRANTZ, F. K. Modification of habit and charge of ice crystals by vapor contamination. *Journal of the Atmospheric Sciences*, Vol. 25, No. 2, 1968, p. 337-38.
- ONAKA, R., and TAKAHASHI, T. Vacuum UV absorption spectra of liquid water and ice. *Journal of the Physical Society of Japan*, Vol. 24, No. 3, 1968, p. 548-50. [Cubic ice has a well-defined absorption band near 8.7 eV while hexagonal and amorphous ice show only a gradual rise of absorption from 7 to 10 eV.]
- ONSAGER, L. Ferroelectricity of ice? (*In* Weller, E. F., ed. *Ferroelectricity. Proceedings of the Symposium on Ferroelectricity, General Motors Research Laboratories, Warren, Michigan, 1966*. Amsterdam, etc., Elsevier Publishing Co., 1967, p. 16-19.) [Discussion of mechanism producing electrical properties of ice at low temperature.]
- PARUNGO, F. P., and WOOD, J. Freezing of aqueous solutions of macromolecules. *Journal of the Atmospheric Sciences*, Vol. 25, No. 1, 1968, p. 154-55. [Attempts to nucleate ice with macromolecules holding water showed no marked correlation with nuclear magnetic resonance line width.]
- PRUPPACHER, H. R., and others. On the electrical effects that accompany the spontaneous growth of ice in supercooled aqueous solutions, [by] H. R. Pruppacher, E. H. Steinberger and T. L. Wang. *Journal of Geophysical Research*, Vol. 73, No. 2, 1968, p. 571-84. [Measurements of potentials developed. Discussion of connection with Workman-Reynolds effect and thunderstorm electricity.]
- ROBERTS, P., and HALLETT, J. A laboratory study of the ice nucleating properties of some mineral particulates. *Quarterly Journal of the Royal Meteorological Society*, Vol. 94, No. 399, 1968, p. 25-34. [Results for kaolinite and montmorillonite and other natural substances including surface glacier debris.]
- ROHATGI, P. K., and ADAMS, C. M., jr. Effect of freezing rates on dendritic solidification of ice from aqueous solutions. *Transactions of the Metallurgical Society of AIME*, Vol. 239, No. 11, 1967, p. 1729-36. [Spacing between ice platelets related to freezing time and freezing rate.]
- ROHATGI, P. K., and others. Dendritic crystallization of ice from aqueous solutions, [by] P. K. Rohatgi, S. M. Jain and C. M. Adams, Jr. *Industrial and Engineering Chemistry. Fundamentals*, Vol. 7, No. 1, 1968, p. 72-79. [Spacing of ice platelets as function of distance, freezing rate and solute concentration, including effects in ternary and quaternary solutions.]

- SCHAEFER, V. J. Ice nuclei from auto exhaust and organic vapors. *Journal of Applied Meteorology*, Vol. 7, No. 1, 1968, p. 148-49. [Observation shows lead from automobile exhaust forms lead iodide and acts as efficient ice nucleator.]
- SHUBIN, V. N., and others. Spektry opticheskogo pogloshcheniya kristallicheskogo l'da i zamorozhennykh kristallicheskikh vodnykh rastvorov [The absorption spectra of crystalline ice and of frozen crystalline aqueous solutions]. [By] V. N. Shubin, V. I. Zhigunov, V. I. Zolotarevskiy, [and] P. I. Dolin. *Doklady Akademii Nauk SSSR*, Tom 174, No. 2, 1967, p. 416-18. [Absorption spectra of ice and frozen LiClO₄ and KOH solutions subjected to pulse radiolysis.]
- SILVER, E. G. Pulsed neutron measurement of the diffusion parameters in ordinary ice as a function of temperature. (*In Pulsed neutron research. Proceedings of the Symposium on Pulsed Neutron Research held by the International Atomic Energy Agency at Karlsruhe, 10-14 May 1965.* Vol. 1. Vienna, International Atomic Energy Agency, 1965, p. 35-48.) [Measurement of parameters for diffusion of neutrons in ice.]
- STEHLE, N. S. Migration of bubbles in ice under a temperature gradient. (*In Ōura, H., ed. Physics of snow and ice . . .* Vol. 1, Pt. 1. [Sapporo], Institute of Low Temperature Science, Hokkaido University, 1967, p. 219-32.) [Observation of velocity of migration of vapour and air bubbles and its theoretical interpretation.]
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