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known as the "Lawson Criterion," which relates temperature, particle density and confinement time for the operation of a fusion reactor. Lawson received his ScD from Cambridge University in 1959. After a short time at Stanford University, he joined the Rutherford Laboratory (now Rutherford-Appleton) as project leader for the design and construction of the Harwell variable-energy cyclotron, the first to accelerate medium-to-heavy ions; he was appointed deputy chief scientific officer of the Laboratory in 1978. Lawson has written *The Physics of Charged-Particle Beams* (1977), which is considered a standard work. More recently he has incorporated lasers into accelerator design and has conducted studies in conjunction with the University of Maryland on beam transport near the space-charge limit.

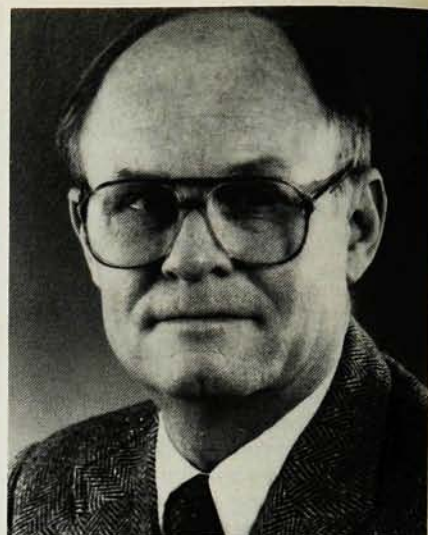
Isaak was cited "for his outstanding contributions to Mössbauer effect, Earth and solar physics." Isaak studied at the University of Melbourne and then accepted a position as a research physicist at Imperial Chemical Industries Australia and New Zealand, where he developed the atomic-beam resonance spectrometer during the late 1950s. In 1961 he joined the faculty of the University of Birmingham, becoming a full professor in 1984. His early research, with P. B. Moon, centered on the Mössbauer effect and resulted in an experimental determination of the upper limit of Earth's speed through the "ether." In 1969, Isaak began fundamental studies of oscillations of the Sun's surface, as evidenced by the displacement of absorption lines in the solar spectrum. Isaak and his colleagues have discovered that these oscillations occur at a well-defined series of frequencies.

Porter receives Society of Rheology Bingham Medal

Roger S. Porter (University of Massachusetts) has been named the 1985 Bingham Medalist of the Society of Rheology. The medal is presented annually to an individual for outstanding contributions to rheology.

Porter received his PhD in chemistry from the University of Washington at Seattle in 1956. He then joined the research staff of the Chevron Research Company, eventually becoming a senior research associate. In 1966 he became an associate professor of polymer science and engineering at the University of Massachusetts in Amherst; he served as head of the department for 1966-76 and was made a full professor in 1973.

Porter's research interests have centered on the characterization, rheology



PORTER

and processing of thermoplastics and liquid crystals. He reported the first entanglement characteristics for many polymer systems, including polyethylene. He has used compressed powders and single crystals to reduce molecular entanglements in drawing polymers to produce thermoplastics of high tensile modulus. Porter has used ammonia as a reversible plasticizer for producing aliphatic nylon polymers of high tensile strength by compressing ammonia gas into them prior to extrusion, then evaporating the ammonia from the drawn nylon. In addition, he has described in detail the effect of a polymer's composition on its viscosity-temperature characteristics, the effect of its molecular weight and distribution on its shear viscosity, and the effects of pressure on viscosity. In the early 1960s, Porter developed one of the earliest experimental programs in the US on the flow properties of liquid crystals. He made pioneering studies of the order and flow of low-molecular-weight mesophases. His current research focuses on liquid crystals in polymer systems. Porter has been active in the Society of Rheology for 20 years, and served as an assistant editor of its *Transactions* during 1966-69.

Washington ins and outs: NSF and SSC consortium

Edward A. Knapp, senior fellow and research adviser at Los Alamos National Laboratory, was elected president of the Universities Research Association on 1 August. Based in Washington, D.C., URA is a consortium of 56 universities that operates Fermilab and the Department of Energy's Central Design Group for the Superconducting Super Collider. Knapp, who had been director of the National Science Foundation for less than two years when he



KNAPP

resigned last August to return to Los Alamos, succeeds H. Guyford Stever as URA president. Stever had been NSF's director from 1972 to 1976; in his last two years there he was also President Ford's science adviser.

President Reagan's nomination of Richard S. Nicholson, acting deputy director at the National Science Foundation the past two years, to be NSF's assistant director for mathematical and physical sciences was approved by the Senate on 1 August, just before Congress left Washington for its traditional August recess. An associate professor of chemistry at Michigan State University before coming to NSF in 1970, Nicholson knows the Foundation well, serving in top jobs and earning major awards—most notably, the Presidential Distinguished Rank, the government's highest civil service honor, conferred by Reagan at a White House ceremony in 1982. Nicholson succeeds Marcel Bardon, who was acting head of the mathematics and physical sciences directorate since 1982. Bardon continues to be director of NSF's physics division, a post he held concurrent with the principal job in the directorate.

in brief

Norman E. Phillips, professor at the University of California at Berkeley and former dean of the college of chemistry, has been appointed associate director and head of the materials and molecular research division at Lawrence Berkeley Laboratory. He succeeds Alan Searcy, who left the post last July to devote more time to his research interests.

Charles R. Newsom, formerly of the physics department of UCLA, has joined the physics and astronomy de-

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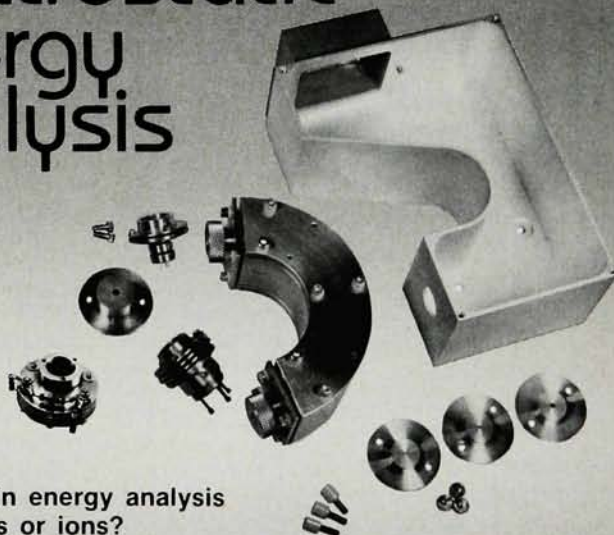
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