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trons in accelerator rings. Bell and Leinaas showed that the acceleration affects the particles in a similar way as a strong gravitational field. The interaction should lead to a heating of the particles.

Jaeger has played a leading role in establishing a research team at NDRE to work on lasers, lens design, optical coatings, infrared detectors and imaging systems, and atmospheric physics relating to thermal imaging. The efforts of this group have resulted in a number of practical devices, such as a laser rangefinder and an infrared tv camera.

ACS presents awards to Rabinovitch and Zwanzig

At its April 1984 meeting, the American Chemical Society will present the Peter Debye Award in Physical Chemistry to B. Seymour Rabinovitch for his contributions to unimolecular reaction kinetics, and the Irving Langmuir Award in Chemical Physics to Robert W. Zwanzig for his contributions to statistical physics.

Rabinovitch, who is professor of chemistry at the University of Washington in Seattle, received his PhD in 1942 from McGill University. He served in the Canadian Army 1942-46, and spent two years at Harvard University before joining the University of Washington faculty in 1948. He was named professor of chemistry in 1957.

Rabinovitch and his students demonstrated the validity of the statistical approach for gross thermal reactions and for specific monoenergetic rate constants. Their discovery of the inverse kinetic isotope effect and development of the theory of centrifugal effects have helped make unimolecular reaction kinetics a precise science.

Zwanzig is Distinguished Professor of Physical Science of the University of Maryland. He received his PhD from Caltech in 1952. After a three-year research fellowship at Yale University, he joined the staff at John Hopkins University as assistant professor. Zwanzig spent 1958-66 as a research chemist at NBS and joined the University of Maryland faculty in 1966.

His projection operator technique is a very general method that simplifies complicated calculations. He first used the operators to derive equations describing time-dependent processes in fluids to uncover the underlying molecular dynamics; since then the technique has been applied to a wide variety of problems.

Zwanzig's earlier work applying perturbation theory to obtain thermodynamic properties of liquids has had a major influence on workers in equilib-

rium statistical mechanics. Zwanzig has also contributed to theories of dielectric relaxation, energy migration, and surface tension as well as research on polymer structure and dynamics.

Institute of Medicine elects physicists among new members

The Institute of Medicine of the National Academy of Sciences elected new members to join the Institute in January 1984. Members of the Institute—at least one-fourth of whom must come from fields other than the health professions—contribute to studies of health-policy issues.

Among the newly elected members are George B. Benedek, professor of physics and biological physics at MIT; Lyle V. Jones, director of the L. L. Thurstone psychometric laboratory at the University of North Carolina, Chapel Hill; and Robert Hofstadter, professor of physics at Stanford University.

AGU awards Bowie medal for high-pressure geophysics

The American Geophysical Union has awarded the William Bowie medal to Syun-iti Akimoto for his pioneering work in the application of high-pressure, high-temperature research to geophysical problems.

In the 22 years since he joined the faculty of the Institute for Solid State Physics (ISSP) of the University of Tokyo, Akimoto has played a leading role in building Japanese high-pressure geophysics research. The award recognizes not only the research Akimoto has done, but also his efforts in teaching graduate students and in encouraging the establishment of other laboratories.

Akimoto demonstrated the importance of obtaining accurate phase diagrams of major mineral systems as a function of composition, pressure and temperature. Through quantitative determination of phase transformation boundaries in mantle minerals in the laboratory, Akimoto and his colleagues confirmed the identification of seismic discontinuities in the transition zone (350–1000 km depth) of the Earth's mantle with such crystallographic phase transformations. Akimoto was a pioneer in high-pressure research during a period in which the conditions accessible to experimenters progressed from those corresponding to the Mohorovičić discontinuity to those of the lower mantle.

Akimoto obtained his PhD in 1950 at the University of Tokyo as a student of

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