

Quick & Easy Superconductivity Measurements



LR-400

Four Wire AC Resistance & Mutual Inductance Bridge

Ideal for direct four wire contact resistance measurements with 1 micro-ohm resolution

Ideal for non-contact transformer method measurements where superconducting sample is placed between primary & secondary coils and flux exclusion causes a change in mutual inductance

Direct reading
Low noise/low power
Double phase detection
Lock-in's built in

LR-4PC accessory unit available for complete IBM-PC computer interfacing

Proven reliability & performance. In use world wide.

LINEAR RESEARCH INC.

5231 Cushman Place, Suite 21
San Diego, CA 92110 U.S.A.
Phone: 619-299-0719
Telex: 6503322534 MCI UW

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IN BRIEF

Caroline Herzenberg, a physicist at Argonne National Laboratory, in January began a two-year term as president of the Association for Women in Science.

Steven F. Clifford, a physicist at the National Oceanic and Atmospheric Administration, has been named director of that agency's Wave Propagation Laboratory in Boulder, Colorado.

Joseph H. Eberly, professor of physics and optics at the University of Rochester, in October received the Marian Smoluchowski Medal, the highest award of the Polish Physical Society, for his work in quantum optics and laser physics as well as his collaborations with Polish physicists on the coherence theory of laser spectroscopy, atomic relaxation in strong laser fields and multiphoton processes.

Emmanuel P. Papadakis, formerly supervisor of quality systems concepts at Ford Motor Company, has joined the Center for Nondestructive Evaluation at Iowa State University as an associate director of the center and an adjunct professor in the electrical engineering and computer science department.

OBITUARIES

Bengt Strömgren

Bengt Strömgren died of a heart attack on 4 July 1987. He was 79 years old.

Strömgren was born in Göteborg, Sweden, on 21 January 1908, but spent his youth and many of his later years in Copenhagen, where his father, Elis Strömgren, was director of the Copenhagen University Observatory until retiring in 1940. Starting at age 13, the younger Strömgren became engaged in a variety of astronomical projects in the fields of his father's interest, including positional astronomy and celestial mechanics. By the time of his graduation from the University of Copenhagen at age 19, his interest had shifted primarily to theoretical astrophysics, and during his long career he made many outstanding contributions to this new field. In addition, he retained a keen interest in observational programs, especially in photoelectric stellar observations, which had already attracted his enthusiastic participation in his pre-college years and to which he

subsequently made fundamental contributions.

Strömgren's early professional life at Copenhagen was interspersed with visits to the US in 1936-37, 1947-48 and 1950. Then, beginning in 1951, he remained for 17 years in this country. From 1951 to 1957 he was director of the Yerkes and McDonald Observatories of the University of Chicago, and from 1957 to 1967 he served as professor of astronomy at the Institute for Advanced Study (Princeton, New Jersey), where he was in charge of an active program of visiting astronomers. He returned to the University of Copenhagen in 1967. Under the Royal Danish Academy of Sciences and Letters, he had a uniquely prestigious honorary position (first occupied by Niels Bohr), which he held until his death.

Strömgren's widely ranging work is characterized by two central features, a perceptive choice of central problems to attack and a keen ability to analyze physical situations in terms that can be compared with observational data. His breadth was remarkable; he obtained important and pioneering results in the three areas that constituted much of theoretical astrophysics in his day: the structure and composition of stellar interiors, stellar atmospheres as interpreted from the observed spectra, and the structure and composition of the interstellar gas.

His early work on stellar structure was devoted to the problem of the "opacity discrepancy," which, as Arthur Eddington had pointed out, arose on the assumption that the contribution of hydrogen to the total stellar mass was relatively small. To analyze this problem Strömgren, with his customary thoroughness, computed detailed tables of atomic opacities; he used these together with simplified models of stellar interiors to show that there is no escape from a high abundance of hydrogen relative to other elements. In 1938 he obtained values for the relative abundances of hydrogen and the heavy elements that are in reasonable agreement with modern values.

In his interpretation of the solar spectrum in 1940 he analyzed only a few absorption lines. His detailed consideration of the relevant atomic constants and his computation of the solar atmospheric structure constituted one of the first attempts to construct a detailed numerical model of stellar absorption-line formation. His results for the relative abundances of hydrogen, magnesium, calcium, sodium and potassium are again in rough