

Li(Ge) DETECTORS AND CRYOGENIC SYSTEMS

SSR, the oldest and most experienced US manufacturer of all types of solid state detectors, now passes on a major reduction in the price of Li(Ge) detectors due to a breakthrough in the manufacturing technology.

- FROM STOCK
 - AREAS OF 1cm²
 - 1mm TO 4mm DEPTH
 - HIGH RESOLUTION
- INEXPENSIVE—\$235.00/\$700.00.

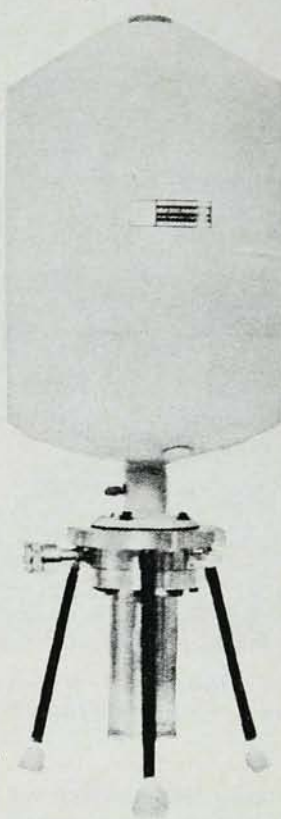
ALSO AVAILABLE . . . complete cryogenic systems with ten liter capacity reservoir,

- COAXIAL DETECTORS
- LARGE VOLUME DETECTORS

For details write Dept. M:



SOLID STATE RADIATIONS, INC.
2261 S. CARMELINA AVE., LOS ANGELES, CALIFORNIA



We're set up for **GROWTH** ours—and yours

Globe-Union has grown steadily to a strong position in components for generation, storage and control of electrical and electronic energy. With sales nearing the \$100 million mark, we've made plans for more growth in which you can share, personally. Our policies emphasize

- Advancement from within based on merit and accomplishment.
- Modern appraisal techniques which systematically review your current potential and readiness for advancement.
- Development program which facilitates broadening assignment on an individual basis.
- Encouragement of further study and professional progress.

We are constructing a beautiful Administrative and Research Park; and we offer attractive salaries and very complete benefits. Our needs are in:

APPLIED RESEARCH

Work in this department usually calls for an advanced degree, unless experience is

particularly pertinent. Scientific disciplines include Solid State Physics, Physical Metallurgy, Ceramics, and Physical Chemistry.

DESIGN & DEVELOPMENT AND MANUFACTURING ENGINEERING

We are interested in persons experienced in one or more of these areas: ceramic based electronic modules, ceramic and electro-mechanical components; semiconductor fabrication and design and electro-chemistry.

Openings for person with B.S. or advanced degrees. In some cases special experience may qualify non-degreed engineers.

LOCATION: MILWAUKEE AREA

Your inquiry, with resume, will receive our most careful and prompt attention. Please address: Mr. E. Boelk, Assistant Mgr., Employment

GLOBE-UNION INC.

900 E. KEEFE AVENUE, MILWAUKEE, WISCONSIN

PHONE 962-9200

An Equal Opportunity Employer

The result is a volume which will amply repay careful study by all students of statistical mechanics. Both classical and quantum statistical mechanics are examined in some detail. Mathematical set and measure theory is introduced to sufficient extent to permit an understanding of the classical results of Birkhoff, Hopf, Khinchin, and R. M. Lewis.

In the quantum statistical mechanics the efforts of von Neumann are given most attention, but the more recent Italian and German attempts are not neglected. The author is not content merely to survey the literature but devotes searching criticism to it. This leads him to the ultimate conclusion that the attempts to base a logical justification of statistical mechanics on ergodic theory has so far been unsuccessful, or as he puts it, the verdict on all the attacks so far made is the Scotch one "not proven." For all its successes in physics, and no one doubts their enormous value, statistical mechanics continues to present a logically evasive character to the contemplative mind.

* * *

R. B. Lindsay, who is dean of the Graduate School at Brown University, has long been interested in theoretical physics, especially its more philosophical aspects.

A compact synopsis

ATOMIC AND IONIC IMPACT PHENOMENA ON METAL SURFACES. By Manfred Kaminsky. 402 pp. (Springer-Verlag, Berlin). Academic Press, New York, 1965. \$14.50.

by D. Elwyn Davies

The declared aim of this book is "to give a compact synopsis of certain atomic and ionic impact phenomena on surfaces." The author has certainly done this, and has further restricted himself to metal surfaces and to impact phenomena, reflecting his interests and activities.

The first three chapters are introductory and are concerned with metal surfaces—their nature, their work function, their preparation. A further four chapters deal with interaction of atoms



THE NEW ELITE is not so new in some of its aspects. The motto of a Renais-

sance alchemist might have run: As long as you're up, find me a prince.

and molecules with metal surfaces—absorption, and the nature of the binding forces, surface reactions, accommodation coefficients studies and measurements, and reflections. There follow long chapters on surface ionization and sputtering of metal surfaces (author's interests). The remaining four chapters deal with ion scattering at metal surfaces, electron emission due to the incidence of ions at metal surfaces (potential and kinetic emission), and electron emission due to the incidence of metastable atoms at metal surfaces.

Starting with a detailed contents list (six pages), and ending with more than 800 references up to 1963 (39 pages), the book contains a wealth of information, and has a nice balance between theory and experiment. However, because of the reference in the text to so many papers, in parts the discussion on some papers must of necessity be cursory in order to limit the size of the monograph to 402 pages.

I consider that this book would be an ideal introductory text for a student about to embark on a research project within the stated contents. With the help of the detailed list of references, he would quickly expand his knowledge on his chosen topic. For the more seasoned research work-

er, working in a narrow field within the content of the book, it will serve to enlarge and coordinate his knowledge in associated fields. Again, the book is a most useful handbook in this field, the more so because of its detailed contents list.

One or two small points need to be mentioned. The author has decided to use wolfram in the text for tungsten. This has naturally led to some difficulties where results of other authors are quoted in diagrams, for example, pages 8, 60, 64. These are understandable, but on pages 269, 272 and 274 the word tungsten appears in the text, tungsten in the diagram, and wolfram in the caption. One or two spelling mistakes have crept in, for example page 17, "work function", and page 32, "occurrence" have been misspelt.

The book is well bound, nicely printed, and has clear though small diagrams, and represents good value at the published price.

The reviewer, who is reader in physics at the University of Keele in England, is particularly interested in the secondary ionization processes that occur in the electrical breakdown of gases at low pressures, and the influence of the work function of cathode surface on the emission processes at the cathode. He has published several papers on these topics.

A playground for the new elite?

SCIENCE: U. S. A. By William Gilman. 499 pp. Viking Press, New York, 1965. \$7.95.

by Robert L. Weber

The author of this book has been an analytical chemist, associate editor of *Popular Science*, and designer of the course in science writing at Columbia University. Mr. Gilman says he visited 126 laboratories from Maine to California in preparation for writing *Science: U. S. A.* The reader may well marvel at the broad scope of the book, the author's apparent total recall of conversations and documents, and his flair for presenting the complex interactions of science, business, and government.

Perhaps even better than the preface, the final two paragraphs in the book indicate the author's purpose in writing it. A reader would do well to start with these paragraphs before setting out through the book's maze of data, opinions, politics, personalities and dilemmas: "Consider our discontent with the usurping picture of today's science—the unhealthy corpulence stumbling under its overload of incompetents, pred-