FARADAY

the Radiation Effects Branch of NRL's Radiation Technology Division.

Faraday was cited for his foresight in evaluating the scientific potential of the then undeveloped concept from which Project NEWBOY evolved. This classified research and development project was implemented by Faraday and led to a major advance in radar deception technology, the application of which has allowed the Department of Defense. to reduce the radar cross-section.

After obtaining his MS from Fordham University in 1947 and serving in the Army Signal Corps during World War II, he began his career with NRL as a research physicist. This 32-year career at NRL encompasses obtaining his PhD in physics from Catholic University in 1963, serving in the sound, nucleonics, solid-state and nuclear sciences divisions, and publishing papers in the fields of radiation effects in solids, photovoltaic energy conversion and radar-absorbing materials.

in brief

Harold D. Craft Jr, director of operations of the Arecibo Observatory, has been named acting director of the National Astronomy and Ionosphere Center at Cornell. He replaces Frank D. Drake, who served as director for 10 years.

Kip S. Thorne, professor of theoretical physics at Caltech, has been named William R. Kenan Jr Professor at Caltech. Thorne, best known for contributions to relativity theory and astrophysics, is the second holder of this Professorship. Harold B. Gray, a Caltech chemist, has been the first Keenan Professor.

Robert Gilmore has left the Institute for Defense Analyses (Arlington, Virginia) to become professor of physics and atmospheric science at Drexel University in Philadelphia.

Jean-Claude Diels, formerly at the Center for Laser Studies at the University of Southern California, has been named professor of physics at North Texas State University (Denton). Rogers W. Redding has been appointed physics department chariman.

Srinivasa Venugopalan has joined the faculty of SUNY, Binghampton as associate professor of physics. He was formerly at Purdue and the Raman Research Institute in India.

obituaries

Mikhail Alexandrovich Leontovich

The plasma community grieves the death early this year of its outstanding theoretician, one of the founders of Soviet radio- and plasma physics, M. A. Leontovich.

Leontovich was born in 1903. His father, A. V. Leontovich, was a well-known physiologist and a member of the Ukrainian Academy of Sciences. In 1923 Leontovich graduated from Moscow State University. From 1920 to 1925 he was a member of the Commission on Kursk magnetic anomaly research, lectured at Moscow State University, and worked at the P. N. Lebedev Physical Institute of the USSR Academy of Sciences. His teacher, an outstanding Soviet physicist, L. I. Mandelstam, exerted a strong influence upon him.

The scope of Leontovich's scientific interests was always very wide. He completed important work on the theory of molecular light scattering (including scattering by liquid surfaces, Raman scattering and scattered light polarization), on ultrasonics (theory of ultrasonic absorption by gases and liquids and absorption of sound waves by electrolytes) and on nonequilibrium thermodynamics.

He made a great contribution to electrodynamics. The approximate boundary conditions that he introduced and that were named for him play an important role in the theory of radio-wave propagation in the vicinity of conducting surfaces. He was the first researcher to apply parabolic equation techniques (widely used later in nonlinear optics) to the problem of radio-wave propagation around the Earth, which he solved together with V. A. Fock.

From 1951 until his death Leontovich headed theoretical research on plasma physics and controlled nuclear fusion at the I. V. Kurchatov Institute of Atomic Energy. He was the author of a number of key ideas and studies on plasma dynamics, namely, the current-carrying plasma stability in a magnetic field, the effects of the conducting shell on plasma stability and plasma pinch dynamics.

Leontovich was an excellent teacher. For a long time he lectured on theoretical physics at the M. V. Lomonosov Moscow State University and the Moscow Engineering Physical Institute. Many of his students have become outstanding physicists, heads of scientific bodies and entire scientific schools. In 1958 he edited *Plasma Physics and the Problem of Controlled Fusion Reactions* in four volumes. Starting in 1962, he edited the series *Problems of Plasma Physics Theory*, which reported achievements in the theory of high-temperature plasma. These books have proved to be manuals for a generation of physicists engaged in controlled nuclear fusion research.

Leontovich's scientific influence went far beyond his laboratory. He attracted scientists by the scope of his thoughts, by his deep interest in new ideas and by his well-disposed criticism. His high scientific standards and intolerance of any falsity were

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manifested in his fruitful activity in the USSR Academy of Sciences, to which he was elected a corresponding member in 1939 and a member in 1946, and in his efforts as deputy editor of the most important Soviet physics journal, *JETP*.

B. B. KADOMTSEV
I. V. Kurchatov Institute of Atomic Energy
Moscow

Judah Landau

Judah Landau, associate professor of physics at the Technion, Haifa, Israel, died last spring. Despite a long illness, bravely endured, he continued to be actively engaged in experimental research on helium at low temperatures and indeed gave an invited talk at the APS meeting in Phoenix only a few days before his death.

Landau was born in the Bronx, New York, in 1942. After graduation from the Bronx High School of Science he entered MIT, where he took the BS degree in physics in 1964. His PhD research, carried out with David Edwards at Ohio State University, included an extensive and precise set of measurements of the osmotic pressure of He^3–He^4 superfluid mixtures and a theoretical interpretation.

After participating in the summer of 1968 in a summer school on quantum fluids at the Technion, he immigrated to Israel with his wife, Francine, and his daughter, Sarah-Yael. At the time of his immigration, the low-temperature facilities at the Technion consisted of an old helium–hydrogen liquefier, several small glass Dewars and one helium pump that allowed temperatures of 1 K to be reached. Together with Ralph Rosenbaum, who immigrated in the same year, and Yaakov Eckstein, who joined Technion in 1971, Landau designed and constructed the first dilution refrigerator in Israel and started really low temperature physics research. His first work was on superfluid He^4 and on He^3–He^4 mixtures; later with a Pomeranchuk cell added to reach lower temperatures, he reported his first experiments on superfluid He^3 in 1973.

During his latter years Landau became interested in solid He^4 and He^3, their adsorption on crystalline surfaces and their interfaces with the liquids. In collaboration with Stephen Lipson and Jacob Pipman he originated a technique in which optical holographic interferometry is used to investigate the dynamics of isotopic helium diffusion in mixtures and morphological phenomena in solid helium. Many of his experiments were recorded on cinefilm. A movie of these observations has been shown at a number of interna-