

the optical properties of the excitonic polaritons and has, for example, shown that the appropriate boundary conditions to use in theoretical interpretations depend on the experimental conditions.

Physicists among 1983 IEEE award winners

Among the 1983 award winners of the Institute of Electrical and Electronic Engineers are Abe Offner, who received the Clelio Brunetti Award, and Erich P. Ippen and Charles V. Shank, who jointly received the Morris E. Leeds award.

Offner is the principal optical scientist for the Perkin-Elmer Corp. in Norwalk, Connecticut. Specializing in the design of optical systems for use in the semiconductor industry, he designed an innovative annular-field all-reflecting optical system that led to the first successful projection wafer-mask aligner used in the manufacturing of integrated circuits. He joined Perkin-Elmer in 1947 and, for the past 35 years, has contributed to many of the company's pioneering optical achievements. The award honors his invention and design of the optics that made possible the projection-lithography system that were crucial to the advance of integrated-circuit manufacture.

Ippen is professor of electrical engineering at MIT. Shank has been with Bell Laboratories in New Jersey since 1969; in 1976, as head of the Quantum Physics and Electronics Department, he worked on extending time-resolved optical spectroscopic techniques into the femtosecond time domain. The award honors both men for their pioneering contributions to extending the techniques of time-domain measurement into the subpicosecond range. (See PHYSICS TODAY, December 1982, page 19.)

Norwegian physicists present Norsk Data and Simrad prizes

Jon Magne Leinaas (University of Oslo) has received the Norsk Data Award in particle physics and Tycho Jaeger (Norwegian Defense Research Establishment) has received the Simrad Prize for electro-optics. The prizes were presented at the annual meeting of the Norwegian Physical Society.

Leinaas is being honored for his work in theoretical physics, in particular for his contributions to understanding the geometrical and topological aspects of gauge theories. Recently he has collaborated with John S. Bell (CERN) in an investigation of the behavior of elec-

LP/PROTRAN

IMSL's Natural Resource for Linear Programming

Linear programming software should be concise and easy to use. Now there's LP/PROTRAN, one of IMSL's Natural Resources, for the professional who expects a straightforward approach to problem solving.

You don't need any programming knowledge to use this remarkable system. In a surprisingly short time, LP/PROTRAN is at your command. Convenient "help" files provide on-line reference, and the system automatically checks your statements for errors.

LP/PROTRAN lets you define problems naturally, in either a symbolic or matrix/vector format. Just specify the objective function, constraints and bounds, and let LP/PROTRAN do the work. The system is designed to easily handle even large problems with "sparse" constraint matrices.

If you're now solving problems using FORTRAN, you'll appreciate the ability to combine FORTRAN and PROTRAN statements for tailored problem solving. This added measure of flexibility sets LP/PROTRAN apart from other linear programming systems.

The IMSL PROTRAN problem-solving systems are compatible with most Control Data, Data General, Digital Equipment and IBM computer environments.

Copyright © 1984 IMSL, Inc., Houston, Texas

LP/PROTRAN is a member of the PROTRAN family of problem-solving systems for mathematics, statistics and linear programming. These systems use accurate, reliable numerical techniques to give you the consistently dependable results you have come to expect from IMSL, a world leader in affordable technical software.

LP/PROTRAN is the natural resource for problems in management, economics, operations research and statistics. And the low subscription rate makes this powerful system extremely affordable, even if only one person in your organization uses it.

To find out more about LP/PROTRAN, return this coupon to: IMSL, NBC Building, 7500 Bellaire Boulevard, Houston, Texas 77036, USA. In the US call toll-free, 1-800-222-IMSL. Outside the US and in Texas, call (713) 772-1927. Telex: 791923 IMSL INC HOU.

Please send complete technical information about LP/PROTRAN, IMSL's Natural Resource for linear programming.

Name
Dept. Title
Organization
Address
City State Zip
Area Code / Phone
Computer type PT24

IMSL

Problem-Solving Software Systems

Circle number 36 on Reader Service Card

PHYSICS TODAY / FEBRUARY 1984

73