# Physics

Purpose: To support teaching and research through the doctoral level in six main areas: mathematical physics, electromagnetism and optics, solid state physics, shock wave physics, acoustics, and physics education. While interest in these areas is concentrated in the Department of Physics, certain areas are also of great interest to students and faculty in other departments/programs such as Astronomy, Biochemistry and Biophysics, Chemical Engineering, Chemistry, Institute of Shock Physics, Mechanical and Materials Engineering, Mathematics, and Ultrafast Spectroscopy Laboratory.

## General Collection Guidelines:

Languages: English is the primary language, but material published in German, French, Italian, Russian and other European and non-European languages is also acquired. Translations into English are preferred over the original and obtained when available.

Chronological Guidelines: Emphasis is on the present. Highly technical materials relating to the history of physics are acquired selectively.

Geographical Guidelines: Not applicable.

Treatment of the Subject: Lower-division textbooks are not generally purchased. Upper division texts and popular works are purchased selectively. Emphasis is on graduate level texts and research material.

Types of Material: Acquisitions are primarily in the form of monographs and serials, but also include dictionaries, directories, encyclopedias, government documents, proceedings/transactions of conferences, and technical reports in any suitable format.

Date of Publication: Emphasis in on the acquisition of current imprints. Retrospective materials may be purchased either in the original, reprint, electronic, or microform depending on availability and cost.

Other General Considerations: Computer applications in physics are collected extensively.

## Observations and Qualifications by Subject with Collection Level:

Mathematical Physics: C(1) / B

Includes classical and theoretical quantum mechanics, theoretical condensed matter physics, relativity and gravitation, statistical mechanics (including computer simulation), thermodynamics, chaos, and cosmology.

Electomagnetism and Optics: C(1) / B

Includes quantum optics, lasers, optical scattering, spectroscopic techniques, nonlinear optics, light scattering, and spectroscopic techniques.

High-pressure and Semiconductor Physics: C(1) / B

Elementary Particle Physics: C(1)

Includes quantum field theory.

Nuclear Physics: C(1)

Exception:

Nuclear Scattering: B

Atomic and Molecular Physics: C(1)

Gases, Fluid Dynamics, and Plasmas: C(1)

Solid State Physics: C(1) / B

Includes structure (particularly surface physics and catalysis), thermal, electrical, magnetic and optical properties.

Shock Physics: C(1) / B

Physical and chemical changes in solids and liquids, shock waves.

Acoustics: C(1) / B

Scattering of sound, high-amplitude sound

Physics Education: C(1) / B

Geophysics: C(2) / C(1)

Astrophysics:

See: Astronomy/Astrophysics

Eileen Brady

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