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Nota di contenuto	Introduction -- Symplectic Form and Poisson Brackets -- Classical Dynamics -- Geometric Quantization -- Topological Features of Quantization -- Coherent States, the Two-sphere and G/H Spaces -- The Chern-Simons Theory in 2+1 Dimensions -- -vacua in a Nonabelian Gauge Theory -- Fractional Statistics in Quantum Hall Effect -- Fluid Dynamics -- Quantization Rules -- A Comment on the Metaplectic Correction.
Sommario/riassunto	This open access book explains geometric quantization from a physicist’s perspective. After presenting the general formalism, it delves into several examples reflecting current research interests in high-energy physics and condensed matter physics. Applications explore Chern-Simons theory, theta vacuum, the Hall effect, fluid dynamics, and elements of noncommutative geometry. The content is tailored to appeal to researchers, graduate students, and advanced

undergraduates in high-energy physics, particle physics, and mathematical physics. A background in differential geometry and group theory is beneficial for a comprehensive understanding of the discussions.