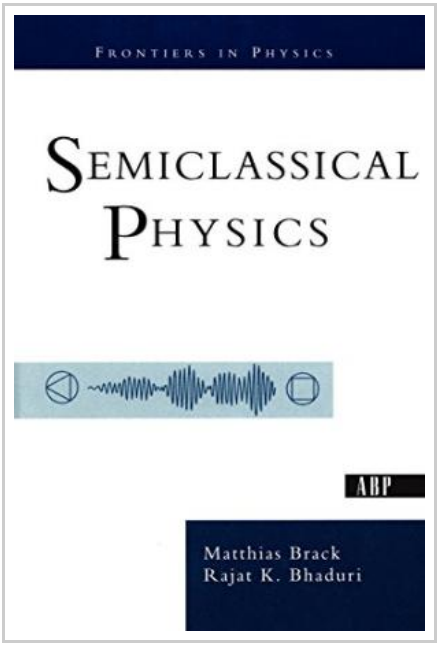

Semiclassical Physics

By Rajat K. Bhaduri, Matthias Brack

The Perseus Books Group, United States, 2003. Paperback. Book Condition: New. Revised ed.. 226 x 154 mm. Language: English . Brand New Book ***** Print on Demand *****.Semiclassical Physics explores the fascinating and deep connection between classical motion and quantum fluctuations. The book conveys a way of describing quantum effects in a physical system using the periodic orbit theory of Gutzwiller, which focuses on the classical dynamics of the system. The authors seek to demonstrate its usefulness for understanding quantum fluctuations in interacting many-body systems, exhibiting the close link of the shorter classical periodic orbits with the partly resolved shell fluctuations. The extended Thomas-Fermi model is developed in detail and shown to describe the average properties of finite fermion systems in a self-consistent mean-field approach. The new, updated paperback edition includes: Basic introduction to semiclassical physics for the general reader Elementary derivation of the Gutzwiller trace formula for chaotic systems; thorough discussion of its extensions to mixed and integrable systems, uniform approximations, and diffractive corrections Unified presentation of extended Thomas-Fermi model, Wigner-Kirkwood expansion, Weyl and Euler-MacLaurin expansions, and Strutinsky averaging Relations of the Gutzwiller theory to the Selberg trace formula and Bogomolny s transfer-matrix method Applications to finite fermion systems...

Reviews

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