

most satisfactory in the book, presenting many diverse applications of perturbation theory and a thorough exposition of the quasiclassical approximation. The detailed relations between the latter and the results of classical mechanics provide a better understanding of the classical limit and the correspondence principle than do most textbooks.

The treatment of the analytic properties of scattering amplitudes provides inadequate motivation and justification for many of the results. In particular, it is not made clear why analytic properties for $\cos \theta > 1$ have any physical relevance.

After introducing the quasi-particle concept for many-body problems, the author argues that since spin and charge are conserved in interactions, the complex excitation forming a quasi-particle must have the same spin and charge as the bare particle. This is clearly an oversimplification, for momentum and energy are also conserved and yet the quasi-particle mass differs from the real particle mass.

The final chapter on quantum field theory deals with the construction of propagators from the conditions of Lorentz and gauge invariance and with criteria for renormalizability, but makes little practical use of these techniques. Radiative corrections to Coulomb's law are derived, but nothing is said about their observable consequences.

To summarize, I opened this book expecting to learn practical methods for deriving important qualitative results without having to treat all details of a problem. I was disappointed to find that many arguments were oversimplified and therefore unconvincing. The very terse exposition renders the book difficult for students. Its greatest use will be by teachers already familiar with the subject matter, who may find in it some ideas that can supplement a more conventional presentation.

LESLIE E. BALLENTINE
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Burnaby, British Columbia

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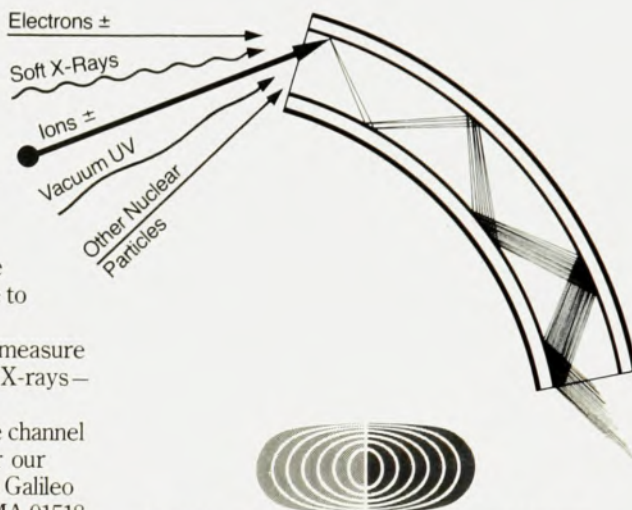
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