

量子物理学・ナノサイエンス第399回セミナー

Foundation and Application of Exact-WKB analysis

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概要

The exact-WKB analysis, which is a mathematically rigorous extension of the WKB analysis, stands as one of the most powerful tools in the study of quantum mechanical systems. It offers significant improvements over semi-classical approximations, particularly in quantum systems where both perturbative and non-perturbative effects play a role. In this talk, after introducing Borel resummation, Stokes graphs and exact-WKB, I will discuss

- (1) the derivation of exact quantization conditions via the exact-WKB method,
- (2) its application to the Schwinger mechanism, and
- (3) its application to the Floquet system.

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