



量子物理学・ナノサイエンス第 312 回セミナー

Exotic spectral degeneracies in non-conservative quantum systems

講師 : Dr. Ievgen Arkhipov
Palacky University, Czechia

日程 : 5月17日(月) 16:30 -

場所 : Zoom*

概要

In this talk, we will discuss the existence of exotic spectral degeneracies, so-called exceptional points (EPs), in non-conservative quantum systems. At the EP, not only eigenfrequencies of a given evolution operator coalesce but also its corresponding eigenvectors, thus signaling the presence of the spectral singularity in a system. In particular, we will talk about the EPs in open, i.e., dissipative, quantum systems, whose dynamics is governed by a quantum Liouvillian superoperator which genuinely incorporates the effects of quantum jumps and fluctuations. The latter play a prominent role in the experimental observation of EPs on a quantum level. The quantum EPs can be utilized, e.g., in quantum metrology and for engineering novel quantum systems with nontrivial transport properties.

*本 ZOOM セミナーに参加されます場合には、事前に下記より登録を済ませてください。

<https://us06web.zoom.us/meeting/register/tZ0tduirrj4pHNd-31nc0vhnoRCJvhxYi-oq>



ご来聴を歓迎いたします。

連絡教員 笹本 智弘 (内線 2736)