

学术报告

Field-theoretical method and epsilon-expansion in meta-stable quantum systems

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频标楼4楼报告厅

About the speaker:

Professional Experience:

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| 2015 - now | Post-doc, University of British Columbia, Canada |
| 2012 | Visiting Scholar, University of British Columbia, Canada. |
| 2008 - 2014 | Ph.D. Institute of Physics, CAS |

Current Research Interests:

- Strongly interacting quantum many-body systems
- Quantum dynamics
- Topological states



Abstract:

Understanding strongly interacting quantum many-body systems has been a long-standing challenge in physics. Thanks to its amazing tunability, the cold atomic gas has become a promising platform and can offer valuable insights into this problem. The atomic gases are generally meta-stable with finite lifetime because of the few-body cluster states the atoms can form. This also adds complexity to theoretical investigations. Taking Bose gases as an example, I will show that field-theoretical methods offer a powerful tool to analyze this meta-stable many-body system. Moreover, it also captures information of lifetime. Combined with an epsilon-expansion analysis, it further enables systematic calculation at resonance.

主办单位: 武汉物数所理论与交叉研究部