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Academic Presentations in Physics 物理学系列学术报告

报告题目：Universal dynamics in chaos and thermal Bose gases

报 告 人：张仁　副教授

主 持 人：陈洋洋　副教授

报告时间：2024年6月19日（星期三）上午10：30

报告地点：长安校区物理楼856

报告摘要： In this talk, I will show two different dynamical behaviors (Oscillation and non-Oscillation) in many-body system. In the first part, I will focus on the Krylov complexity, which is a new theoretical method to quantify quantum chaos. Using the notation introduced for studying the Krylov complexity, we reveal hidden universal behaviors of the autocorrelation function of quantum many-body systems. In the second part, I will focus on the quench dynamics of Bose gases. Using high-temperature virial expansion, we study the quench dynamics of the thermal Bose gases near wide, narrow, and intermediate Feshbach resonances. Our results show that the shallow bound state near Feshbach resonances leads to interesting phenomena.

参考文献：

1. Phys. Rev. X 9, 041017 (2019); 2. Quantum Frontiers 3, 7 (2024); 3. Phys. Rev. E 109, 064208 (2024); 4. arXiv:2401.10499; 5. arXiv:2303.07343; 6. Phys. Rev. A 107, 063310 (2023)

报告人简介：张仁，2014年博士毕业于中国人民大学，2014-2017在清华大学做博士后研究工作，2017年至今在西安交通大学任副教授；共发表论文30余篇，理论研究成果被国际著名冷原子实验组证实，产生了广泛影响力。

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