



Seminar

Periodic Table of SYK and supersymmetric SYK

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首都师范大学和美国密西西比州立大学

Time: 10: 00 am, May. 30, 2019 (Thursday)

时间: 2019年5月30日 (周四) 上午10:00

Venue: Room W563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Abstract

We will first review the recent progress in SYK models and their global impacts in quantum gravity, QCD, condensed matter physics and quantum information science. Then we will outline the results achieved in our recent works in [1-5]. This colloquium is pedagogical, so should be accessible to any graduate students who are interested in working on this still rapidly expanding research direction and other related directions such as many body localization (MBL), eigenstate thermalization hypothesis (ETH), Complexity, etc.

1. Jinwu Ye, arXiv: 1809.0667, substantially revised version 2 to be put on arXiv soon.
2. Fadi Sun et al, arXiv: 1809.07577.
3. Fadi Sun et al, arXiv:1903.02213.
4. Fadi Sun et al, , arXiv:1905.07694.
5. Y. Yu et al., arXiv:1903.02947.

About the speaker

叶锦武教授是美国耶鲁大学理论物理博士。他现在是首都师范大学长江学者教授和美国密西西比州立大学教授。叶教授主要研究领域是强相互作用的电子, 玻色子, 自旋, 光子等的合作现象和量子或拓扑相变理论, 他的研究还涉及超对称性破缺, 共形场论和各种量子或拓扑相的量子引力对偶。

His two most recent research directions are on :

- (1) Novel Quantum, topological Phases, phase transitions driven by interactions in various spin-orbit coupled systems.
- (2) quantum chaos and quantum information scramblings in cavity QED systems or in Sachdev-Ye-Kitaev models.