

武汉物数所理论交叉学术交流系列报告 (第九十五期)

Surprises and Excitements in Unitary Bose gases: What we didn't know but we do know now

Prof. Fei Zhou

The university of British Columbia, Canada

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频标楼4楼报告厅

About the speaker:

Dr. Fei Zhou is Professor of Physics at University of British Columbia (UBC), Vancouver, Canada. He got his PhD in theoretical physics in University of Washington, Seattle, 1997. After spending three years at Princeton University as a postdoctoral fellow and a brief period as a faculty member at the Institute of Theoretical Physics, Utrecht University, the Netherlands, he joined UBC in 2003 and has been there since then. Currently, he is also a Fellow of Canadian Institute for Advanced Research, a foreign associate of ICQS, Institute of Physics, Chinese Academy of Science, and a member of the external review committee (Oversea) at Chinese Academy of Sciences. He was awarded with Alfred Sloan fellowship (New York) in 2005-2007 and Killiam Research fellowship (UBC) in 2011.



Abstract:

The running of couplings plays a critical role in short distance QED or QCD physics. And because the running usually occurs at very high energy scales, the related phenomena in particle physics can only be observed in very-high-energy colliders. In this talk, we will show in unitary quantum gases the running of coupling constants can occur at very small energy scales, smaller than the degeneracy temperatures in some limits. We will discuss the recent experimental evidence for those and what can be done in the future.

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