Dunhuang Forum: Symmetries and Their Breaking in Quantum Systems

January 18-22, 2027, Dunhuang, China

First announcement

The Dunhuang Forum on **Symmetries and their Breaking in Quantum Systems** will be held from **January 18 to 22, 2027, in Dunhuang China**. The forum will explore the fundamental role of symmetries and their breaking in quantum many-body systems, bringing together scientists from nuclear physics and other areas of quantum science.

Symmetries and their breaking are central to understanding nuclear forces, structure, reactions, and nuclear matter. From chiral symmetry breaking in QCD to chirality in nuclear collective dynamics, symmetry principles connect diverse nuclear phenomena and offer new opportunities for theoretical and experimental investigations.

Similar concepts arise in condensed matter, ultracold atoms, and quantum information. The forum will explore common themes in symmetry breaking, quantum correlations, and collective phenomena across different quantum systems, fostering interdisciplinary exchange and international collaboration.

Main Topics include, but are not limited to:

- Symmetries and nuclear interactions
- Symmetry breaking and emergent phenomena
- Symmetry energy and astrophysics
- Fundamental symmetries
- …

Organizing Committee:

Jie Meng (chair), Yun-Feng Xiao, Xi-Meng Chen, Shan-Gui Zhou, Bing Guo, Wen-Hui Long, Li-Sheng Geng, Bao-Hua Sun, Yi-Fei Niu, Peng-Wei Zhao, Fu-Sheng Yu, Pei-Rong Li, Ming-Zhu Liu, Jing Geng

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