

# Phase Transitions of Hybrid Organic-Inorganic Perovskites

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## Abstract:

Hybrid organic-inorganic perovskites have attracted significant attention in the past two decades owing to their enormous application potential in energy. Like their oxide counterparts, these hybrid organic-inorganic systems exhibit abundant phase transitions which can often lead to significant changes in the electrical, magnetic, and optical properties that are of vital importance for the design and fabrication of functional devices. However, the atomistic driving forces and underlying mechanism need to be well understood for these hybrid perovskite systems. In this talk, I shall present our recent advances in the thermally and pressure-driven phase transitions and their microscopic mechanisms of some three-dimensional and two-dimensional hybrid organic-inorganic perovskites. At the same time, I shall discuss the symmetry alternation at the interface and corresponding atomic origin of some two-dimensional hybrid organic-inorganic perovskites.

## References:

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## Biography:

Wei Li is a Professor of School of Materials Science and Engineering at Nankai University, China. His research interests include the materials discovery, physical properties and energy applications of hybrid crystals (especially hybrid organic-inorganic perovskites and metal-organic frameworks). He obtained his PhD in 2008 from Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences. After a post-doctoral training at University of Cambridge, he took a faculty position in the School of Physics at Huazhong University of Science and Technology in 2015. He joined Nankai University in September 2018. He is on the editorial board of *APL Materials* since May-2018 and an Associate Editor from Jan-2019.

