

## Chiral Semiconductor Materials: Construction Strategies and Photophysical Properties

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Semiconductor materials with chiral optical properties (or optical activities) have promising application prospects in circularly polarized luminescence, spintronic devices and circularly polarized light detection. Therefore, the synthesis of semiconductor materials with excellent optical activity and the study of their optical properties have important scientific significance and application prospect. Based on this, in this talk, the speaker will introduce the recent work on the construction strategies of chiral semiconductor materials and their photophysical properties. The specific contents include: (1) optical activity regulation of chiral semiconductor nanocrystals and hybrid metal halides and relevant physical mechanism; (2) nonlinear optical properties of chiral semiconductor materials, such as second-harmonic generation; (3) spin carrier dynamics of chiral hybrid metal halides.



Prof. Tingchao HE obtained his Ph.D. in physics from Shanghai Jiao Tong University. Following his Ph.D. studies, he held a research fellow position at Nanyang Technological University. He is currently a professor of physics at Shenzhen University, where his research is focusing on the spectroscopic properties (ultrafast dynamics, nonlinear optics, and chirality) and application of semiconductor nanocrystals and organic-inorganic hybrid metal halides. As the first author or corresponding author, He has published over 100 papers in peer-reviewed journals, such as Science Advances, Nature Communications, Advanced Materials, Nano Letters, ACS Nano, Angewandte Chemie international Edition.