



## The 216th HENPIC Seminar

Transverse spin asymmetry as a probe of new physics beyond the SM

Speaker: Dr. Bin Yan

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### Abstract:

The absence of signals for new heavy resonances at the LHC suggests that the scale of new physics (NP) likely significantly exceeds the electroweak scale. The Standard Model Effective Field Theory (SMEFT) has become a valuable framework for systematically capturing potential NP effects, with leading contributions expected from dim-6 operators. However, chirality-flipping dim-6 operators for light fermions, which are poorly constrained as their interference with the SM will be highly suppressed. In this talk, I will discuss recent progress in exploring these NP effects through transverse polarization effects without such suppression, and it also offering a new avenue to investigate potential CP violation effects.

### About the speaker:

Bin Yan received his B.S. from Chongqing University in 2012 and Ph.D. from Peking University in 2017. Then, he served as a postdoc researcher at Michigan State University (2017-2019) and Los Alamos National Laboratory (2019-2022, Director's Postdoctoral Fellow). In 2022, Bin became an Associate Researcher at the IHEP of Chinese Academy of Science. His research focuses on TeV phenomenology, specifically Higgs and top quark physics, effective field theory of the SM, and collider physics. He has published over 40 papers, including 3 PRL.



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