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[507] Proximity-modulated spin-orbit interaction at the Pb/MoSe₂ interface

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This work focuses on modulation of spin-orbit interaction (SOI) in 2H-MoSe₂ induced by proximity effects at its interface with amorphous Pb, providing strong SO coupling. The key element of our approach is the formation of amorphous Pb overlayers, allowing us to overcome k-space mismatch of the wavefunctions across the interface. We use SX-ARPES, which allows reaching the interface region where the SOI is modulated. Definition of the out-of-plane electron-momentum in the SX-ray energy region enables determination of the proximity-induced SOI through the full 3D k-space and its dependence on the Pb-overlayer thickness. Analysis of the experimental data are supported with one-step ARPES calculations based on the multiple scattering GF-KKR method.

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