Angle- and spin-resolved photoemission spectroscopy study of monolayer semiconducting transition metal dichalcogenides WEI YAO, ERYIN WANG, HUAQING HUANG, Tsinghua Univ, TAICHI OKUDA, Hiroshima Synchrotron Radiation Center, CHAOXIN LIU, Pennsylvania State University, WENHUI DUAN, SHUYUN ZHOU, Tsinghua Univ — Monolayer transition-metal dichalcogenides (TMDs) receive significant attention due to their intriguing physical properties for both fundamental research and potential applications in electronics, optoelectronics, spintronics, and so on. In particular, the multiple degrees of freedom in these materials (e.g. spin, valley and layer) are coupled with each other, providing various ways to control their properties. Here we report the electronic and spin structural studies of a monolayer semiconducting transition metal dichalcogenide thin film using Angle-resolved photoemission spectroscopy (ARPES) and Spin-Resolved ARPES.