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Investigation of FeSe nematic phase SOONSANG HUH, Seoul Natl Univ, JEONGJIN SEO, Yonsei Univ, YOONYOUNG KOH, Max Plank POSTECH center for Complex Phase Materials, YEONGKWAN KIM, KAIST, CHANGYOUNG KIM, Seoul Natl Univ — The nematic phase is believed to play an important role in iron based superconductors(IBSC). It has been argued that nematic phase is related to magnetic spin fluctuation or/and orbital degree of freedom, but it is not yet understood. FeSe, known to have orbital order without long range magnetic order, is a unique system to study the nematic phase To investigate the electronic structure of FeSe nematic phase, we performed angle resolved photoemission spectroscopy (ARPES) and X-ray linear dichroism(XLD) experiments on fully detwined sample by using piezo. We report Fermi surface topology of nematic phase and its orbital character. With XLD experiment, our results suggest Ferro orbital order exists in FeSe.

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