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**Electronic structure of FeS superconductor.** JIN MIAO, Fudan University — A new iron-based superconductor FeS has been discovered recently. Here we report its electronic structure by performing high-resolution angle-resolved photoemission spectroscopy measurement on FeS single crystal. It contains two hole-like and two electron-like bands around the Brillouin zone center and corner, respectively, near Fermi energy. However, the other hole-like band around the zone center observed in other iron-based compounds is missing. Moreover, these four bands exhibit moderate  $k_z$  dispersion with quasi-two-dimensional property. Compared between the band structures calculated by theory and obtained from our experiment, the renormalization factor is about 4, indicating strong electronic coupling. By studying the phase diagram of FeSe compounds with Te and S isovalent dopants, we revealed that the superconducting transition temperature should have intimate relation with the intensity of electronic correlation and Fermi-surface topology for the high temperature superconductors. Our results would put strong constrain on the theoretical calculations.

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