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Heavy Weyl fermion state in CeRu₄Sn₆ YUANFENG XU, CHANG-MING YUE, HONGMING WENG, XI DAI, Chinese Academy of Sciences (CAS)
— We have found a new type of topological state, heavy Weyl fermion state, in the strongly correlated system CeRu₄Sn₆. Based on LDA+Gutzwiller calculation, which can treat the strong correlation effects effectively, both type-I and type-II Weyl fermion state can be formed in the quasi-particle band structure and the numbers of Weyl points are sensitive to the valence of Cerium. The surface calculations indicate that the topologically protected Fermi arc states exist on the (010) but not on the (001) surfaces.

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