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Floquet Topological Insulators in Uranium Compounds SHU-TING PI, SERGEY SAVRASOV, Univ of California - Davis — A major issue regarding the Uranium based nuclear fuels is to conduct the heat from the core area to its outer area. Unfortunately, those materials are notorious for their extremely low thermal conductivity due to the phonon-dominated-heat-transport properties in insulating states. Although metallic Uranium compounds are helpful in increasing the thermal conductivity, their low melting point still make those efforts in vain. In this report, we will figure out potential Uranium based Floquet topological insulators where the insulating bulk states accompanied with metallic surface states is achieved by applying periodic electrical fields which makes the coexistence of both benefits possible.

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