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A comparison of the superconducting states of Ta4Pd3Te16 and Nb3PdxSe7 QIU RUN ZHANG, BIN ZENG, DANIEL RHODES, LUIS BALICAS, NHMFL — We have measured the superconducting upper critical fields of a $Ta_4Pd_3Te_{16}$ sample and a $Nb_3Pd_xSe_7$ sample with very close values of T_c. The Maki parameter of $Ta_4Pd_3Te_{16}$ ($H_{c2}(T \to 0\,\mathrm{K}) \sim 5.5\mathrm{T}$) is small and hence it is an orbital limited system. However, H_{c2} shows an unconventional linear T dependence in the whole temperature range. Even though they have similar crystalline structures, the upper critical fields of $Nb_3Pd_xSe_7$ are extremely high ($H_{c2}(T \to 0\,\mathrm{K}) \sim 25\mathrm{T}$) and much more anisotropic.

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