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Superconductivity in $TaSe_2$ compounds doped with Pt WENKAI ZHENG, QIURUN ZHANG, Natl High Magnetic Field Lab and Florida State University, DANIEL RHODES, Columbia University, YUCHE CHIU, Natl High Magnetic Field Lab and Florida State University, RICO SCHOENEMANN, Natl High Magnetic Field Lab, QIONG ZHOU, SHAHRIAR MEMARAN, Natl High Magnetic Field Lab and Florida State University, THOMAS MARTIN, JULIA CHAN, The University of Texas at Dallas, LUIS BALICAS, Natl High Magnetic Field Lab — Here, we report the observation of superconductivity in Pt doped $TaSe_2$ with Pt doping levels ranging from 0.1% to 5%. $TaSe_2$ displays a dome of superconductivity that is dependent upon the Pt content with some evidence for quantum criticality associated with the suppression of charge density wave phase observed around 110 K. Pt doping is able to induce superconductivity in $TaSe_2$ with a maximum superconducting critical temperature of 2.5 K. We observe a sizeable anisotropy in upper critical fields between fields applied along planar and the inter-planar directions and it also depend on the doping levels.

Wenkai Zheng
Natl High Magnetic Field Lab

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