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Interplay between Magnetism and Superconductivity of $Fe_{0.5\%}TaSe_2$ through Magnetotransport DHAN BAUTISTA, California State University, Fresno, ALEX LIEBMAN-PELAEZ, JAMES ANALYTIS, University of California, Berkeley — Intercalation of magnetic ions into highly-correlated electron systems often leads to novel properties emerging from the interactions between magnetism and other order parameters, such as superconductivity. Here, magnetotransport properties of $Fe_{0.5\%}TaSe_2$ have been measured as functions of both temperature and field, across a range of pressure. The Fe-doped compound exhibits an overall negative magnetoresistance, in contrast to the positive magnetoresistance of the pure $TaSe_2$ compound. In addition, an anomalous magnetic hysteresis is present in the doped sample at 2 K. Lastly, under pressure the Kondo effect, driven by spin-spin scattering at dopant sites, gives way to superconductivity.

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