Effect of Magnetic Substitution on Topological Kondo Insulator SmB$_6$ TRISTIN METZ, YASUYUKI NAKAJIMA, XIANGFENG WANG, JOHN-PIERRE PAGLIONE, University of Maryland, College Park — The Kondo topological insulator SmB$_6$ is an ideal candidate to realize protected metallic surface states driven by strong electron correlations. Recent experiments [1] provide evidence for one-dimensional electron transport on the surface of SmB$_6$, associated with the existence of topologically nontrivial chiral edge states at the boundaries of intrinsic surface ferromagnetic domains. If these surface states are indeed topologically nontrivial they will be destroyed by the introduction of time reversal symmetry breaking magnetic impurities. We investigate the effect of magnetic impurities on SmB$_6$ through transport measurements in Fe and Ni substituted SmB$_6$ at very low temperatures. [1]Nakajima et. al., arXiv:1312.6132

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