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Electrical and magnetic properties of Na doped Ca_2IrO_4 ¹ YIYAO CHEN, ASHUTOSH DAHAL, DEEPAK SINGH, Univ of Missouri - Columbia — The coexistence of strong spin-orbit coupling and electron correlation in layered iridates can lead to the interesting $J_{\text{eff}} = 1/2$ Mott state, which has been studied in perovskite-like Sr_2IrO_4 and Ba_2IrO_4 . Unlike its sister compound, the bulk Ca_2IrO_4 exhibits hexagonal structure, while the Ruddlesden-Popper phase tetragonal structure is thermodynamically unstable. Bulk Ca_2IrO_4 has semiconducting behavior, and the spin $1/2$ Ir^{4+} ions carry magnetic moments. Doping Na creates electron deficiency in Ca_2IrO_4 . In this talk, I will discuss electrical and magnetic measurements on newly synthesized Na doped Ca_2IrO_4 . Experimental results on single crystal Ca_2IrO_4 will also be discussed.

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