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**Magnetism and transport in defected and doped pyrochlore iridates**

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Pyrochlore iridates A2Ir2O7 (A-227, where A=Y, Bi and rare earth elements) host a variety of novel magnetic and electronic ground states that arise from the interplay of electron correlation, spin-orbit coupling and geometric frustration. In many of the insulating A-227 single crystals, the Ir4+ moments form a long-range, all-in/all-out antiferromagnetic order at low temperatures. In this talk, we will discuss some unusual magnetic properties of the defected and doped A-227 compounds, in which Ir5+ ions coexist with the nominal Ir4+. In particular, a cooling field dependent shift of magnetic hysteresis loop is observed below the antiferromagnetic ordering temperature. Possible origins of this exchange-bias-like phenomenon will be discussed. We will also present magneto-transport studies of pyrochlore thin films that are grown by pulsed laser deposition. In particular, we will discuss the influence of oxygen vacancies on the transport properties.