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Transport and ordering properties of geometrically frustrated metallic pyrochlore magnets. KA-MING TAM, MICHEL GINGRAS, University of Waterloo — Motivated by recent experiments on the $\text{Pr}_2\text{Ir}_2\text{O}_7$ metallic pyrochlore material, we study the ordering of the localized 4f Pr moments coupled to the itinerant 5d electrons from Ir. A Monte Carlo method is used to study the condition for spin-ice ordering, and the accompanying change of transport property due to spin ordering. We find that the effects from hybridization between the Pr moments and the Ir electrons should be included to describe the metallic spin liquid phase at low temperatures.

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