

Abstract Submitted  
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**Magnetic order in pyrochlore iridate  $\text{Y}_2\text{Ir}_2\text{O}_7$  probed by electron paramagnetic resonance** W.K. ZHU, Indiana University, Bloomington, W. TONG, Chinese Academy of Sciences, L. PI, Chinese Academy of Sciences and University of Science and Technology of China, L.S. LING, Chinese Academy of Sciences, Y. ZHANG, Chinese Academy of Sciences and University of Science and Technology of China, S.X. ZHANG, Indiana University, Bloomington — We performed electron paramagnetic resonance (EPR) studies of the magnetic properties of the pyrochlore iridate  $\text{Y}_2\text{Ir}_2\text{O}_7$  compound. The resonance line in the EPR spectrum shifts towards lower fields when the temperature is below 100 K, suggesting the appearance of a local field generated by the ordered magnetic moments at low temperatures. The temperature dependent local field and magnetization both show hysteresis between zero field cooling and field cooling, however, the magnetic ordering temperature  $T_O$  ( $\sim 100$  K) determined by EPR is about 50 K lower than the transition temperature  $T_M$  ( $\sim 150$  K) in the  $M - T$  measurements, indicating a possible short-range order state at the intermediate temperature. A hyperfine structure was detected below the long-range ordering temperature, suggesting the co-existence of isolated paramagnetic  $\text{Ir}^{4+}$  moments with the magnetic order state.

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