

Abstract Submitted
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Yb₂Sn₂O₇: a quantum critical point approaching the ferromagnetic ordering from the quantum spin liquid side¹ ZHILING DUN, University of Tennessee, HAIDONG ZHOU, University of Tennessee, National High Magnetic Field Laboratory, Florida State University, ALANNAH HALLAS, HARLYN SILVERSTEIN, University of Manitoba, YIMING QIU, NIST Center for Neutron Research, University of Maryland, JOHN COPLEY, NIST Center for Neutron Research, JASON GARDNER, NIST Center for Neutron Research, Indiana University, EUNSANG CHOI, National High Magnetic Field Laboratory, Florida State University, CHRISTOPHER WIEBE, National High Magnetic Field Laboratory, Florida State University, University of Manitoba, University of Winnipeg — The neutron scattering measurements on pyrochlore Yb₂Sn₂O₇ show no long range ordering down to 0.05 K but appearance of diffuse scattering, low energy spin wave excitations, and temperature-independent relaxation time below 2 K, which indicate the system enters a quantum dynamics region with ferromagnetic interactions. The AC susceptibility further shows that Yb₂Sn₂O₇ enters a “spin freezing” region below 0.14 K. Our results suggest that Yb₂Sn₂O₇ sits on a quantum critical point by approaching the ferromagnetic ordering from the spin liquid side.

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