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Inelastic neutron scattering studies of itinerant spin excitations in URu2Si2 near the hidden order transition JOHN JANIK, NHMFL/FSU, G. MACDOUGALL, G. LUKE, McMaster University, Y.-J. JO, L. BALICAS, NHMFL, Y. QIU, J. COPLEY, NIST, Z. YAMANI, B. BUYERS, CNBC, National Research Council, C. WIEBE, NHMFL/FSU — We performed extensive neutron scattering studies on the heavy fermion superconductor URu_2Si_2. Using the C5 triple axis spectrometer at Chalk River, we studied the spin excitations recently reported [C. R. Wiebe, J. A. Janik et al, Nature Physics] above and below the T_0 transition. It has become clear from our previous work that these incommensurate itinerant spin excitations account for the entropy change into the hidden order (HO) state. This severely limits the possible theoretical scenarios on the ground state of the HO phase.

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