

Abstract Submitted
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Neutron scattering study of the field-induced tricritical point in MnSi¹ J. KINDERVATER², A. BAUER, Physik-Department, Technische Universität München, Garching, Germany, M. GARST, Institute for Theoretical Physics, Universität zu Köln, Köln, Germany, M. JANOSCHEK, Los Alamos National Laboratory, Los Alamos, USA, N. MARTIN, S. MÜHLBAUER, W. HÄUSSLER, Heinz Maier-Leibnitz Zentrum, Technische Universität München, Garching Germany, P. BÖNI, C. PFLEIDERER, Physik-Department, Technische Universität München, Garching, Germany — The intermetallic compound MnSi attracts great scientific interest due to two unusual phase transitions, namely the transition from the conical phase to a skyrmion lattice in small fields and the transition from the helical to the paramagnetic phase without external magnetic field that was recently identified to be a fluctuation induced first-order transition, i.e. a so called Brazovskii-transition. Recent measurements of the specific heat provide striking evidence for a tricritical point (TCP), where the first order transition alters to second order. We report neutron spin echo measurements using the MIEZE technique. The recorded quasi elastic linewidth shows a change of the characteristic spin fluctuations at the TCP. The combination with additional SANS measurements and a generalized Brazovskii theory establishes a consistent picture of the statics and dynamics of the transition.

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²Institute for Quantum Matter and Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, USA

Jonas Kindervater
Johns Hopkins University

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