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Skyrmion contribution to thermopower of MnSi ANA AKRAP, Department of Condensed Matter Physics, University of Geneva, CH-1211 Geneva 4, Switzerland, STEVAN ARSENIJEVIĆ, Institute of Condensed Matter Physics, Swiss Federal Institute of Technology, EPFL, CH-1015 Lausanne, Switzerland, CEDOMIR PETROVIC, Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, Upton, New York 11973, USA, LÁSZLÓ FORRÓ, Institute of Condensed Matter Physics, Swiss Federal Institute of Technology, EPFL, CH-1015 Lausanne, Switzerland — Skyrmions have recently been theoretically predicted [1] and experimentally observed [2] in MnSi. To identify whether skyrmions contribute to thermoelectric transport, we present a detailed map of the temperature, pressure and magnetic field behavior of thermopower S in MnSi. $S/T(p,T)$ confirms the established phase diagram with Fermi liquid, non-Fermi liquid and partial order phases. In the high pressure non-Fermi liquid phase, $S(T)$ increases in the vicinity of the boundary with the Fermi liquid phase, at critical pressure $p_c \sim 14.5$ kbar. This may be linked to the scattering of conduction electrons on fluctuating amorphous skyrmions [1]. On the contrary, the thermopower decreases when an ordered lattice of skyrmions is established in the magnetic field. A small suppression of $S(T)$ is observed in a narrow region, for 27 K $< T <$ 29 K, and 0.1 T$< B <$ 0.3 T, corresponding to the ordered skyrmion A phase.

[1] U. K. Rössler et al. Nature **442**, 797 (2006)
[2] S. Mühlbauer, et al. Science **323**, 915 (2009)

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