

2nd International Conference on

MAGNETISM AND MAGNETIC MATERIALS

September 24 - 26, 2018 | Budapest, Hungary

Elena Zvereva et al., Mater Sci Nanotechnol 2018, Volume 2

PECULIARITIES OF MAGNETIC ORDERING IN NOVEL CHIRAL 2D MAGNET MnSnTeO_6

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New triangular lattice layered compound MnSnTeO_6 with unique chiral crystal structure was prepared and its static and dynamic magnetic properties were studied both experimentally (through magnetization, specific heat, neutron diffraction and ESR) and theoretically (through *ab initio* DFT calculations). Magnetic susceptibility and specific heat evidence an onset of antiferromagnetic order at $T_N \sim 10$ K. However, there observes an additional first order transition at $T^* \sim 5$ K, which can't be related to structural one as confirmed from the neutron data. The ground state was found to be stabilized by seven exchange parameters determined via *ab initio* DFT calculations. All of them are significant, but there is a remarkable difference triggered by chiral structure: the left-handed interactions are weaker than the right-handed ones. The spin dynamics was (ESR data) discussed in the terms of critical broadening and BKT scenario.

BIOGRAPHY

Elena Zvereva has completed her PhD in 2000 and habilitation in 2017 from Lomonosov Moscow State University, Russia. She is Professor Associate of Physics Faculty of Lomonosov Moscow State University, Russia. She has over 100 publications that have been cited over 300 times. Scientific interests include wide class of quantum cooperative phenomena in Condensed Matter Physics, with emphasis on strongly correlated electron system, low dimensional magnetism, novel functional materials for Li-ion batteries fabrication and spintronics. Research activities are related to the fundamental characterization of static, dynamic and resonant physical properties of the new complex oxides and chalcogenides of transition, alkali and rare-earth metals.

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