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Neutron Scattering Study of Low Energy Magnetic Excitation in FeTeSe System ZHIJUN XU, University of California, Berkeley, JINSHENG WEN, Nanjing University, JOHN SCHNEELOCH, Brookhaven National Lab, MASA AKI MATSUDA, A.D. CHRISTIANSON, Oak Ridge National Lab, GENDAGU, I.A. ZALIZNYAK, GUANGYONG XU, J.M. TRANQUADA, Brookhaven National Lab, R.J. BIRGENEAU, University of California, Berkeley — We have performed neutron scattering and magnetization/transport measurements on a series of FeTe_{1-x}Se_x system single crystals to study the interplay between magnetism and superconductivity. Comparing to pure FeTe_{1-x}Se_x compounds, extra Fe and Ni/Cu doping on Fe-site can change physics properties of these samples, including resistivity, magnetization and superconducting properties. Our neutron scattering studies also show the Fe-site doping change low energy magnetic spectrum, including the magnetic excitations intensity, position and magnetic correlation length in these samples. On the other hand, the temperature dependence of the low energy magnetic fluctuations are also found to be different depending on the composition. This work is supported by the Office of Basic Energy Sciences, DOE.

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