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Magnetic Structure of Superconducting FeTeOx Films by Neutron Scattering[1] L.K. NARANGAMMANA, ZHIWEI ZHANG, J.I. BUDNICK, W.A. HINES, University of Connecticut, Storrs, J.W. LYNN, Center for Neutron Research, NIST, CHRISTOF NIEDERMAYER, Paul Scherrer Institut Villigen, B.O. WELLS, University of Connecticut, Storrs — We present the temperature-dependent neutron diffraction studies of superconducting $FeTeO_x$ and non-superconducting FeTe films grown by PLD.[2] In both cases we were able to get strong elastic, magnetic neutron peaks even though we were using film samples. Both samples had magnetic scattering similar to that of bulk $Fe_{1.05}Te$, indicating the coexistence of magnetism and superconductivity in the oxidized films. We will present a detailed analysis of the differences in magnetism between the superconducting and non-superconducting samples.

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[2]**Appl. Phys. Lett.** 103, 102604 (2013)

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