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Local Structure Investigation of $ReMn_2O_5$ A. MASADEH, T. TYSON, NJIT, S.-W. CHEONG, Rutgers University — The temperature dependent structure of the $ReMn_2O_5$ (Re=rare earth) system has been examined by the x-ray pair distribution function method based on high-q data. Temperature dependent measurements reveal anomalies in the short range structure involving oxygen atoms. Comparison with Rietveld and XAFS analysis will be made. The detailed temperature dependent structure on multiple length scales will be presented with implications for the observed low temperature ferroelectric properties. This work is supported by DOE Grant DE-FG02-07ER46402.

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