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Comparison of Structural Properties of a Pb-free relaxor to PMN DANIEL PHELAN, JASMINE MILLICAN, PETER GEHRING, NIST Center for Neutron Research — The Pb-free perovskite, $BaZn_{0.317}Nb_{0.633}Ti_{0.05}O_3$, has been reported to be a ferroelectric relaxor with a permittivity that has a stronger frequency shift than Pb-based relaxors [1]. We report neutron powder diffraction measurements which were performed over a 450 K temperature range on this compound. The results are compared to PMN, and it is shown that the atomic displacements and the thermal expansion of these two compounds are very dissimilar. [1] L. Khemakhem et al., J. Alloys Compd. 452, 451 (2008).

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