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Structural Stability of Nano-scale $SrTiO_3$ Under Pressure HAN ZHANG, TREVOR TYSON, New Jersey Institute of Technology, XINGUO HONG, MEGAN SCOFIELD, STANISLAUS WONG, State University of New York at Stony Brook — The bulk phase of $SrTiO_3$ (STO) is paraelectric and exhibits a structural phase transition near $\sim$ 6 GPa under hydrostatic pressure. It has recently been found that nano-scale STO is polar under ambient conditions. We have conducted pressure dependent structural measurements on monodispersed nano-scale samples with 10 nm and 83 nm particle size. The structures of both samples were explored and the results are compared with the reported studies of bulk STO. This work is supported by DOE Grant DE-FG02-07ER46402.

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