

Abstract Submitted  
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**The Effect of mechanical alloying on Electrical properties of BaTiO<sub>3</sub> Nano crystals** MASOUD MOLLAEE, Department of Physics, University of Texas at El Paso, MAHMOUD REZAEE, MAHDIEH ZABOLI, Department of Physics, Ferdowsi University of Mashhad — In this paper, electrical properties of BaTiO<sub>3</sub> Nano crystals have been studied, Barium Titanate Nano crystals are made by mechanical alloying method in a ball mill of SPEX 8000. For determining Curie temperature, the diagrams of dielectric constant variation via temperature and hysteresis are used. Our results show that, there is a relationship between the time of milling and the curie temperature. this means with increasing milling time and decreasing particle size the curie temperature of samples decreases. In addition, with increasing temperature up to the Curie temperature, the hysteresis loop of samples decreases and in the Curie temperature the hysteresis loop changes to a straight line and also the width of hysteresis loops samples decreases when the temperature increases and it reaches to zero at Curie temperature.

Masoud Mollae  
Department of Physics, University of Texas at El Paso

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