

## Poster Presentation

LA.P49

*Compound*

C. Tabti<sup>1</sup>, A. Chouaih<sup>1</sup>, F. Hamzaoui<sup>1</sup>

<sup>1</sup>*University of Mostaganem, Department of Chemistry, Mostaganem, Algeria*

Structural evolution of LiNbO<sub>3</sub> with temperature. A comparative study was made by X-ray diffraction on a single crystal of lithium niobate (LiNbO<sub>3</sub>) at low temperature (120K) and room temperature (293K). LiNbO<sub>3</sub> is a ferroelectric compound particularly interesting for applications in the nonlinear optics field. After a recording of high resolution X-ray diffraction data, we used Blessing formalism for the reduction and the processing of the raw data. Structure refinement was carried out by program SHELXL. The results of the refinement led to a reliability factor of about 6% at T = 293K and of 3% at T = 120K. The structure evolution study of lithium niobate with temperature made it possible to highlight the compound stability in the investigated temperature range. Results show a light displacement (about 0.01Å) of oxygen atoms around the Li - Nb bond.

**Keywords:** X-Ray, Refinement, ONL