Crystal Growth of Quasi-One Dimensional SrNbO$_{3.41}$ and LaTiO$_{3.41}$

ANN DEML, University of Wisconsin-River Falls, C. A. M. DOS SANTOS, Escola de Engenharia de Lorena-USP, JOHN NEUMEIER, B. D. WHITE, Montana State University — Single crystals of SrNbO$_{3.41}$ and LaTiO$_{3.41}$ were grown in order to investigate the physical properties of these quasi-one dimensional conductors. Single crystals growth was accomplished with an optical image furnace; characterization was performed with X-ray powder diffraction. The resistance and heat capacity of SrNbO$_{3.41}$ were measured in the temperature range $300 \, \text{K} > T > 0.3 \, \text{K}$. SrNbO$_{3.41}$ was annealed to examine the influence of oxygen content on the electrical resistivity. The Debye temperature and electronic heat capacity coefficient of SrNbO$_{3.41}$ were found to be $458.5 \pm 0.2 \, \text{K}$ and $0.77 \pm 0.07 \, \text{mJ/mol K}$ respectively.

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