

Abstract Submitted  
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**Electrical Properties of the  $\text{Ln}_{3-x}\text{Y}_x\text{TaO}_7$  (Ln=Dy, Gd) solid solution** JOSE FRANCISCO GOMEZ-GARCIA, Facultad de Quimica, ALEJANDRO DURAN, Centro de Nanociencias y Nanotecnologia, PABLO DE LA MORA<sup>1</sup>, Facultad de Ciencias, GUSTAVO TAVIZON, Facultad de Quimica, Universidad Nacional Autonoma de Mexico — Systems with the formula  $\text{Ln}_{3-x}\text{Y}_x\text{TaO}_7$  (Ln=Dy, Gd) crystallizing in the weberite related structure (SG C222, No. 20) were synthesized by the solid-state reaction method. Structural characterization through Rietveld refinements indicates that a solid solution in the whole range  $0 \leq x \leq 3$  exist in both Gd and Dy systems. Structural cell parameters as a function of the rare-earth content are shown in this work, as well as the AC electrical properties in the 30-700°C range. We have performed impedance (400-600°C) and electric polarizability measurements (at room temperature); the results indicate that the polarizability reaches its maximum values at  $x=0.67$ , 1.67 and 2.33 for the Gd samples, meanwhile these values were  $x=0.67$  and 2.0 for the Dy samples. In intermediate composition values, the  $\text{Ln}_{3-x}\text{Y}_x\text{TaO}_7$  samples exhibit null polarization.

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