

Abstract Submitted
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Structural and Dielectric Study of (Dy,Er,Ho)CrO₃ Biferroic Compounds¹ CESAR MEZA, JESUS SIQUEIROS, ALEJANDRO DURAN, CNYN-UNAM — Technological progress, especially in electronic applications, demands increasingly advanced substances, capable of performing a variety of tasks while simultaneously occupying less space than their predecessors. An answer to this demand lies within the realm of multiferroics. Multiferroic materials are defined as those single phase compounds where more than one ferroic order coexists; they generally belong to the perovskite group. One manifestation of multiferroicity, magnetoelectricity, requires the coexistence of spontaneous electric polarization and magnetic ordering. It is for this reason that rare-earth chromites have been selected as suitable candidates. This work is concerned with synthesis, characterization and dielectric response of the DyCrO₃, ErCrO₃ and HoCrO₃ ceramic compounds. The samples were synthesized by both the traditional solid state ceramic method, and the self-propagating combustion method. The resultant chromites were characterized by TG, DTA and XRD, which confirms the Pbnm space group. Additionally, conductivity analysis was performed and the associated activation energy determined for each system using experimental values and Arrhenius law.

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