

# Dielectric Dispersion of New Ferroelectric Cobalt Halide Dimers: Bis-ethanolammonium-hexahalocobaltate, $(\text{C}_2\text{H}_8\text{NO})_2\text{Co}_2\text{X}_6$ , $\text{X} = \text{Cl}/\text{Br}$

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The AC conductivity in the frequency range 5.0 Hz - 10.0 kHz, the magnetic susceptibility in a field of 14.7 and  $17.8 \cdot 10^4$  A/m, and differential thermal analysis at 78 K up to room temperature for bis-(ethanolammonium) $\text{Co}_2\text{X}_6$ ,  $\text{X} = \text{Cl}$  and  $\text{Br}$  are reported. The bromide dimer undergoes an order-disorder transition at 302 K and a displacive type ferroelectric transition at  $T \sim 220$  K. The chloride dimer shows two transitions, the first being in a displacive ferroelectric one at  $T \sim 210$  K showing critical slowing down. The second phase transition, occurring at 282 K, is found to be inactive in the electric measurements.

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*Key words:* Dielectric Permittivity; Phase Transition; Ferroelectric Transition.