

Effects of Pressure and Electric Field on the  
Relaxational Dielectric Properties of  $\text{K}_{0.97}\text{Li}_{0.03}\text{O}_3$  (KLT-3)

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The temperature dependence of the dielectric response of KLT-3 shows no evidence of a thermodynamic phase transition, but reveals two prominent relaxational features associated with the off-center  $\text{Li}^+$  ion, one attributed to the hopping of the  $\text{Li}^+$  dipole and the other with the reorientation of  $\text{Li}^+ - \text{Li}^+$  ion pair. Both relaxations are Debye-like and follow Arrhenius kinetics, the energy barriers decreasing with pressure. While pressure favors the relaxational behavior, a biasing *dc* electric field favors long-range order of the dipolar system. The interplay between pressure and field provides additional insight. Pressure suppresses the magnitude of the  $\epsilon'(T)$  response over the whole temperature range. The results allow evaluation of the contributions of the soft mode and of the  $\text{Li}^+$  dipoles to the measured  $\epsilon'(T)$  response.

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