

No. 1B-d8 $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$
($M = 336.8$)

1a	Ferroelectricity in $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$ was discovered by Smolenskii and Agranovskaya in 1958.		58Smo, 59Smo
b	phase	II	I
	state	F	P
	crystal system		cubic
	space group		$\text{Pm}\bar{3}\text{m} - \text{O}_h^1$
	Θ [K]	153 (average)	
	Transition is diffuse phase transition smeared around 153 K. $\rho = 8.55 \cdot 10^3 \text{ kg m}^{-3}$. Color: yellow green.		59Myl
2a	Crystal growth: flux method with PbO .		59Myl
3a	Crystal structure: disordered perovskite, $a = 4.03 \text{ \AA}$ at RT.		59Myl
4	Thermal expansion: Fig. 1B-d8-001.		
5a	Dielectric constant: Figs. 1B-d8-002...1B-d8-004.		
9a	Birefringence: Fig. 1B-d8-005. Absorption: Fig. 1B-d8-006.		
b	Quadratic electrooptic effect: Fig. 1B-d8-007, Fig. 1B-d8-008.		
c	SHG: see Fig. 1B-c9-014.		

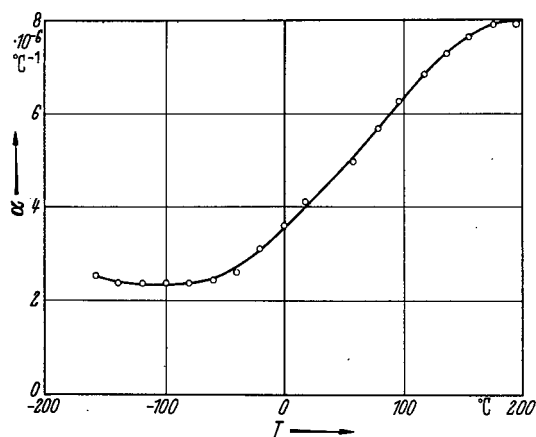


Fig. 1B-d8-001. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. α vs. T [60Sin]. α : linear thermal expansion.

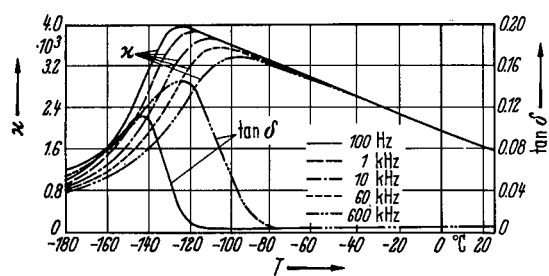


Fig. 1B-d8-002. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. κ , $\tan \delta$ vs. T [61Bok].
Parameter: f .

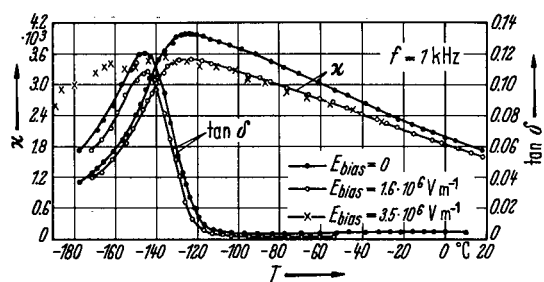


Fig. 1B-d8-003. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. κ , $\tan \delta$ vs. T [61Myl].
Parameter: E_{bias} , $f = 1$ kHz.

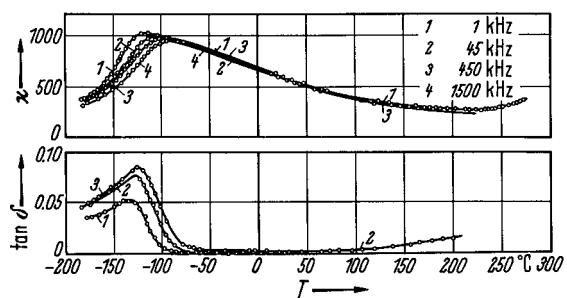


Fig. 1B-d8-004. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. κ , $\tan \delta$ vs. T [60Smo].
Parameter: f .

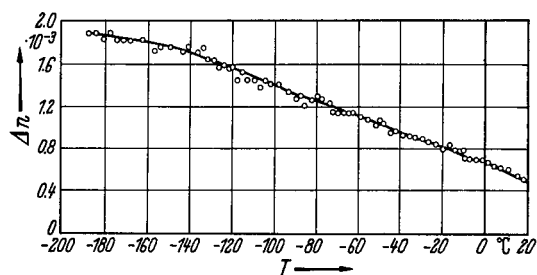


Fig. 1B-d8-005. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. Δn vs. T [61Bok]. Measured at raising temperature in the presence of the electric field after preliminary polarization of the crystal during cooling.

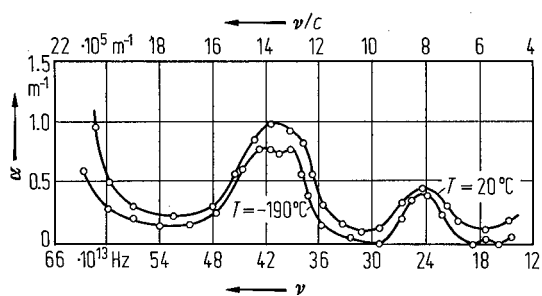


Fig. 1B-d8-006. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. α vs. ν [69Smo].
Parameter: T .

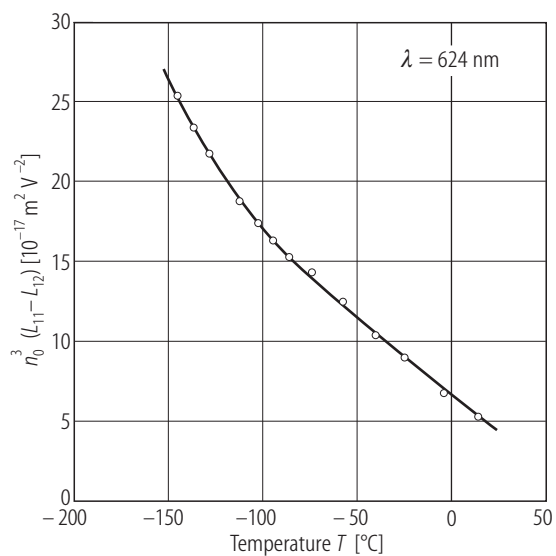


Fig. 1B-d8-007. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$, $n_o^3(L_{11} - L_{12})$ vs. T [68Smo].

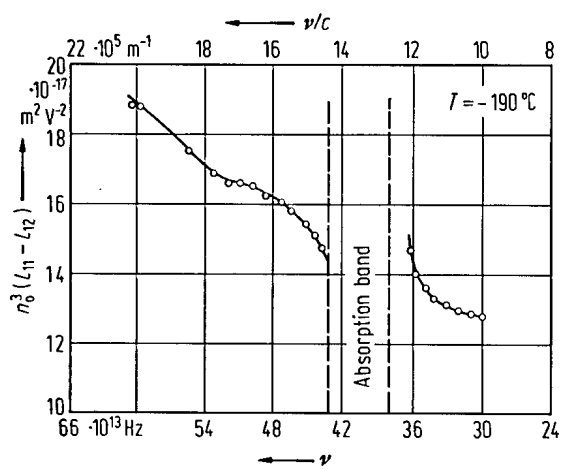


Fig. 1B-d8-008. $\text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$. $n_o^3(L_{11} - L_{12})$ vs. ν [69Smo].

References

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