

No. 1B-d9 $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$
 ($M = 383.9$)

1a	Ferroelectricity in $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$ was found by Bokov and Myl'nikova in 1960.		60Bok
b	phase	II	I
	state	F	P
	crystal system		cubic
	space group		$\text{Pm}\bar{3}\text{m} - \text{O}_h^1$
	Θ [°C]	−98 (average)	
	Transition is diffuse phase transition smeared around −98 °C.		
	Color: light yellow.		60Bok
2a	Crystal growth: flux method with PbO.		60Bok
3a	Crystal structure: disordered perovskite, $a = 4.02 \text{ \AA}$ at RT.		60Bok
5a	Dielectric constant: Fig. 1B-d9-001.		
9a	Birefringence: Fig. 1B-d9-002.		
b	Electrooptic effect: Figs. 1B-d9-003...1B-d9-005.		

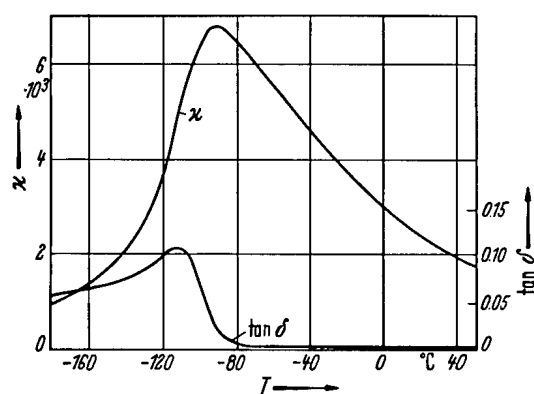


Fig. 1B-d9-001. $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$. κ , $\tan \delta$ vs. T [60Bok].
 $f = 1$ kHz.

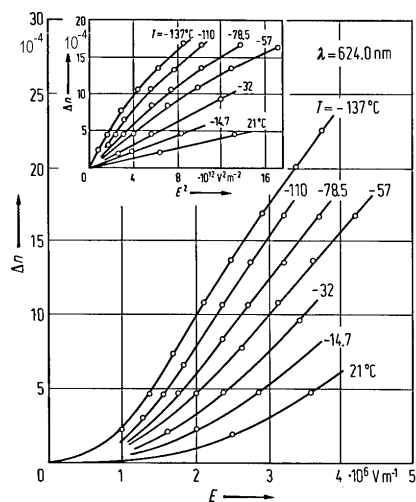


Fig. 1B-d9-002. $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$. Δn vs. E and Δn vs. E^2 [68Smo]. Parameter: T . Light \parallel [001], field \parallel [100].

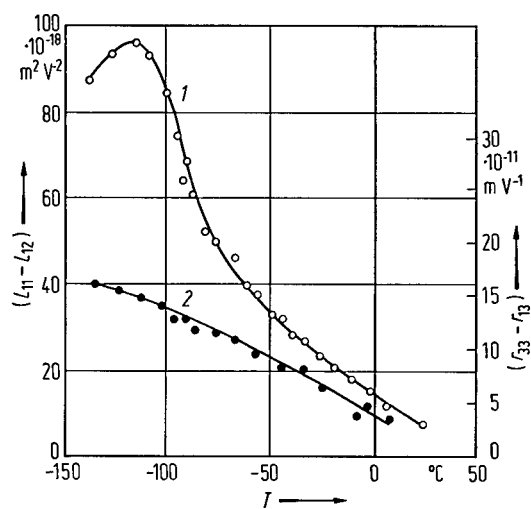


Fig. 1B-d9-003. $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$. $L_{11} - L_{12}$, $r_{33} - r_{13}$ vs. T [76Kra]. Curve 1: $L_{11} - L_{12}$. 2: $r_{33} - r_{13}$.

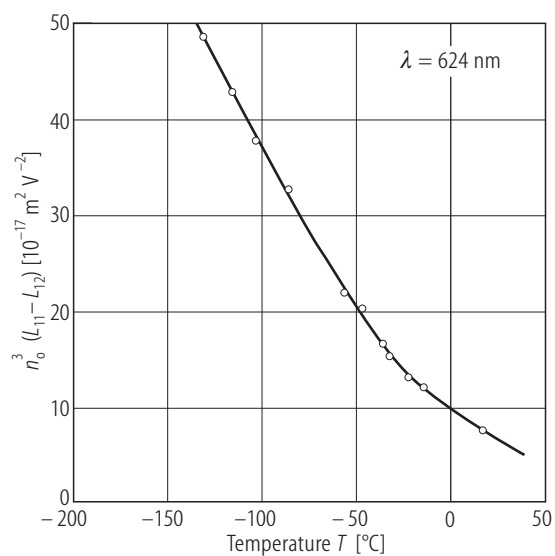


Fig. 1B-d9-004. $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$. $n_o^3 (L_{11} - L_{12})$ vs. T [68Smo].

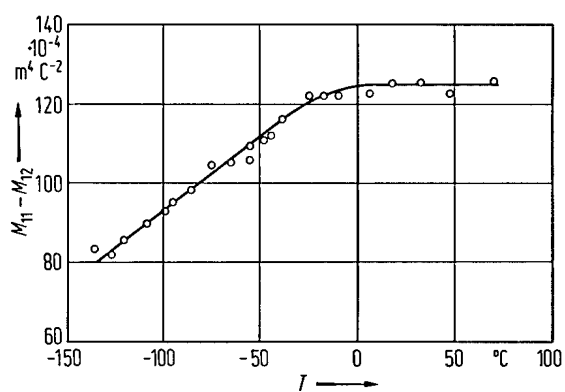


Fig. 1B-d9-005. $\text{Pb}(\text{Mg}_{1/3}\text{Ta}_{2/3})\text{O}_3$. $M_{11} - M_{12}$ vs. T [76Kra].

References

- 60Bok Bokov, V.A., Myl'nikova, I.E.: Fiz. Tverd. Tela **2** (1960) 2728; Sov. Phys. Solid State (English Transl.) **2** (1961) 2428.
- 68Smo Smolenskii, G.A., Krainik, N.N., Bereznoi, A.A., Myl'nikova, I.E.: Fiz. Tverd. Tela **10** (1968) 2675; Sov. Phys. Solid State (English Transl.) **10** (1969) 2105.
- 76Kra Krainik, N.N., Smolenskii, G.A., Kamzina, L.S., Trepakov, V.A., Bereznoi, A.A.: Ferroelectrics **12** (1976) 169.