No. 1B-b14 $Pb(Mg_{1/2}W_{1/2})O_3$
(M = 359.3)

1a	Antiferroelectric properties of $Pb(Mg_{1/2}W_{1/2})O_3$ were discovered by Smolenskii et al.			59Smo
b	phase	II	I	
	state	A	P	62Zal
	crystal system	orthorhombic	cubic	
	space group	$C222_1 - D_2^5$		
	Θ [°C]	41		79Nom
2a	Reaction of formation: DTA method. Crystal growth: flux method.			76Tok 60Myl
3a	a = 22.74 Å, b = 22.79 Å, c = 15.90 Å at RT. Orthorhombic unit cell: Fig. 1B-b14-001.			62Zas
b	Crystal structure: $Pb(Mg_{1/2}W_{1/2})O_3$ has the structure of ordered perovskite type. See Fig. 1B-b14-001. Z = 64 (molar unit: Pb_2MgWO_6).			62Zas
4	Lattice distortion associated with the phase transition. Thermal expansion: Fig. 1B-b14-002.			62Zas
5a	Dielectric constant: Figs. 1B-b14-003...1B-b14-005. $C = 1.2\cdot10^4$ K and $\Theta_p = -56$ °C at p = 0. $d\Theta_a/dp = -38(2)$ K GPa^{-1}, $d\Theta_p/dp = 14(2)$ K GPa^{-1} , $d\ln C/dp = 0.39$ GPa^{-1}, Fig. 1B-b14-006.			86Yas
6	Heat capacity: Fig. 1B-b16-007. Transition heat (II–I): ΔQ_m = 1154 J mol^{-1}.			66Str
8a	Elastic compliance: Fig. 1B-b16-008. Ultrasound absorption: Fig. 1B-b16-009, Fig. 1B-b16-010.			
9a	Optical absorption: Fig. 1B-b16-011.			
15a	Domain structure of various temperature was observed by polarized light.			75Kam

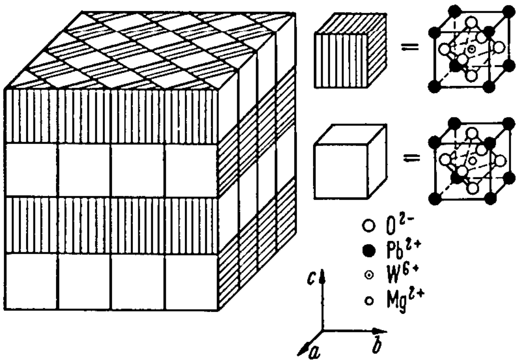

Fig. 1B-b14-001. Pb($Mg_{1/2}W_{1/2}$)O_3. Unit cell [62Zas].

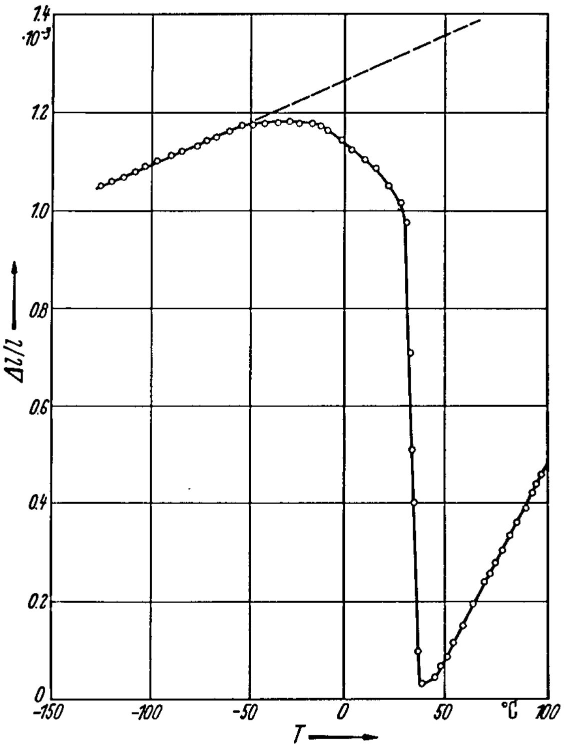

Fig. 1B-b14-002. $Pb(Mg_{1/2}W_{1/2})O_3$. $\Delta l/l$ vs. T [61Smo].

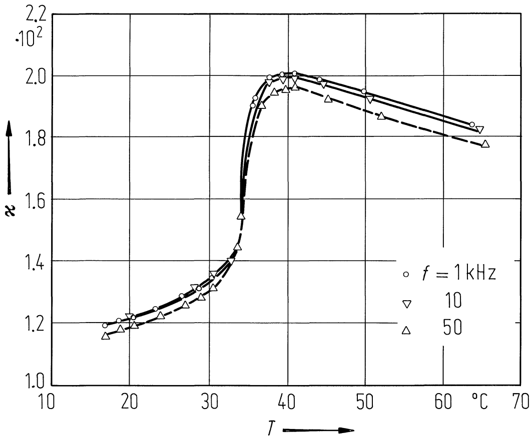

Fig. 1B-b14-003. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). κ vs. T [82Cho]. Parameter: f.

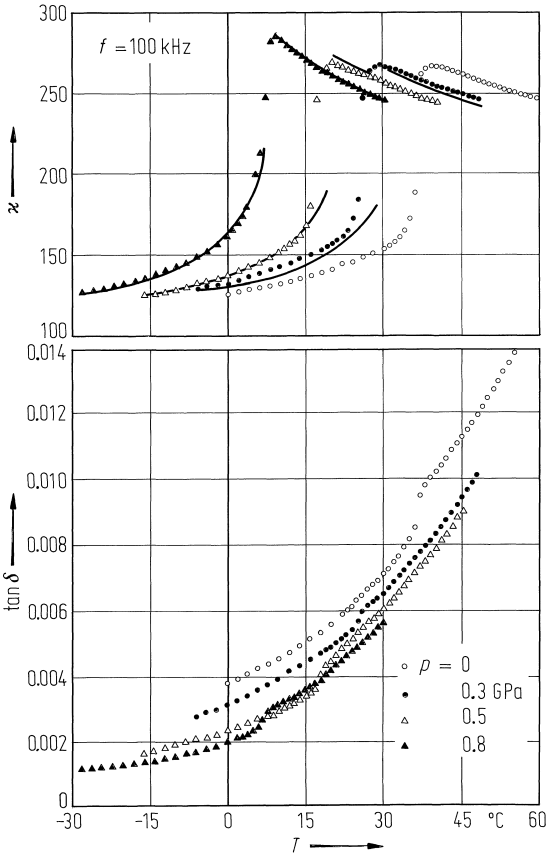

Fig. 1B-b14-004. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). κ, $\tan\delta$ vs. T [86Yas]. Parameter: p.

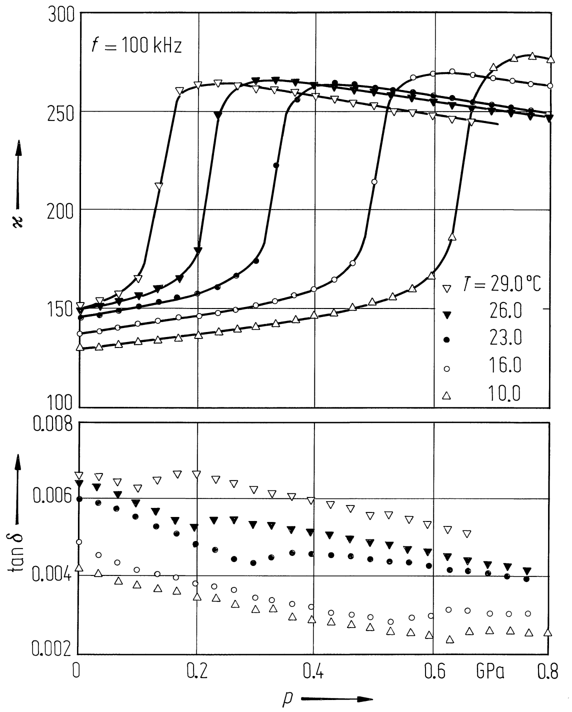

Fig. 1B-b14-005. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). κ, tan δ vs. p [86Yas] Parameter: T.

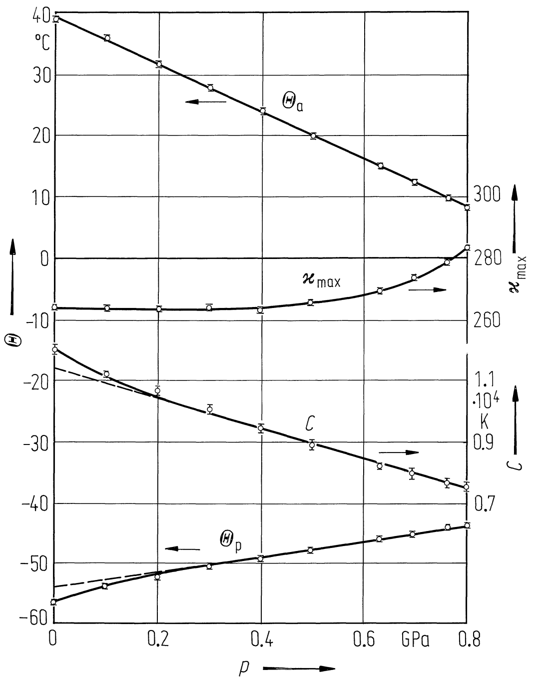

Fig. 1B-b14-006. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). Θ_a, κ_{max}, C, Θ_p vs. p [86Yas]. κ_{max}: the maximum dielectric constant.

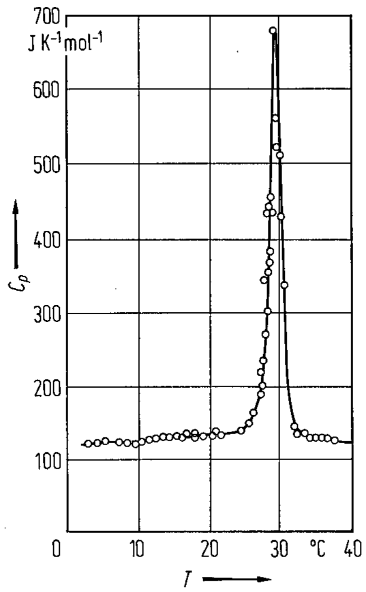

Fig. 1B-b14-007. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). C_p vs. T [66Str]. C_p: molar heat capacity at constant pressure.

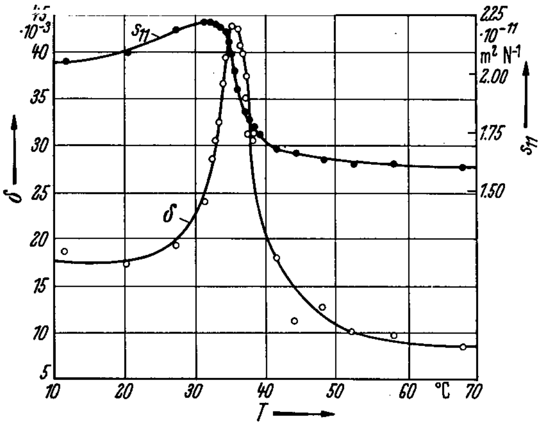

Fig. 1B-b14-008. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). Elastic compliance s_{11}, logarithmic decrement of attenuation δ vs. T [62Shu].

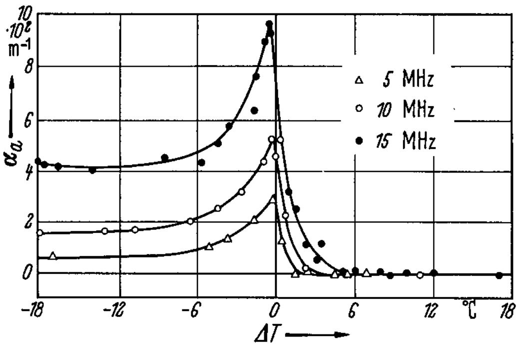

Fig. 1B-b14-009. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). Ultrasonic absorption coefficient α_a vs. ΔT (= $T - \Theta_a$) [66Min].

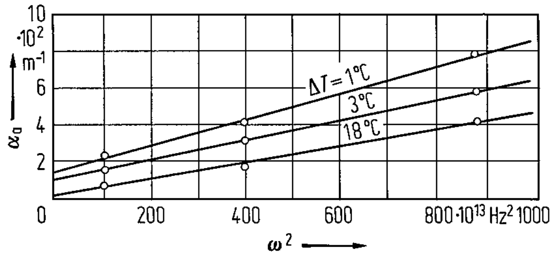

Fig. 1B-b14-010. $Pb(Mg_{1/2}W_{1/2})O_3$ (ceramics). Ultrasonic absorption coefficient α_a vs. ω^2 [66Min]. Parameter: ΔT (= $\Theta_a - T$) . ω: angular frequency.

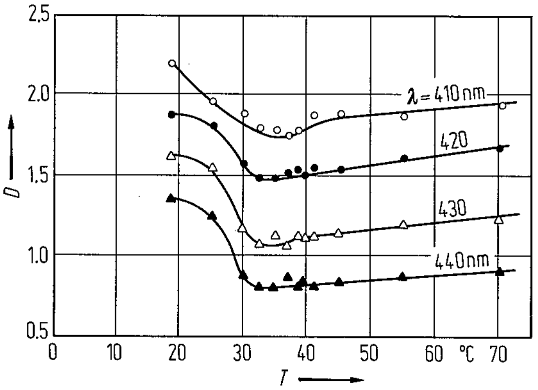

Fig. 1B-b14-011. $Pb(Mg_{1/2}W_{1/2})O_3$. Optical density *D* vs. *T* [75Kam]. Parameter: λ.

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