

No. 1A-17 CdHfO₃, Cadmium hafnate
($M = 338.90$)

1a	Dielectric anomaly in CdHfO ₃ was reported by Averyanova et al. in 1968.				68Ave
b	phase	III	II	I	73Spi,
	state	(A)		P	75Der
	crystal system	orthorhombic	orthorhombic	rhombohedral	
	space group	Pbnm – D _{2h} ¹⁶		R $\bar{3}c$ – D _{3d} ⁶	
	Θ [°C]	600		720	
	$\rho = 8.4 \cdot 10^3 \text{ kg m}^{-3}$ at RT.				68Ave
	Colorless or slightly yellowish.				73Spi
2a	Crystal growth: flux method with PbO and B ₂ O ₃ .				73Spi
3a	$a = 5.5014(8) \text{ \AA}$, $b = 5.6607(8) \text{ \AA}$, $c = 7.969(1) \text{ \AA}$ at RT. Rhombohedral phase with hexagonal cell dimensions, $a = 5.747(4) \text{ \AA}$, $c = 13.49(1) \text{ \AA}$ at 1075 K.				75Der
4	Thermal expansion: Fig. 1A-17-001.				
5a	Dielectric constant: Fig. 1A-17-002, Fig. 1A-17-003.				75Der

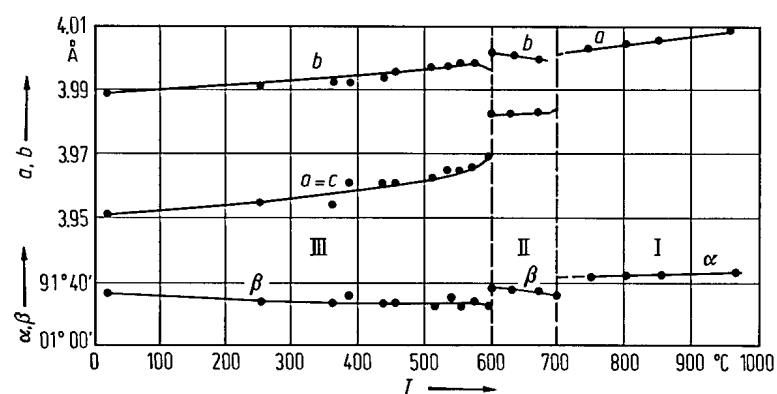


Fig. 1A-17-001. CdHfO_3 . Lattice parameters a, b, c, α, β vs. T [73Spi]. The lattice parameters in phase III are for the monoclinic setting.

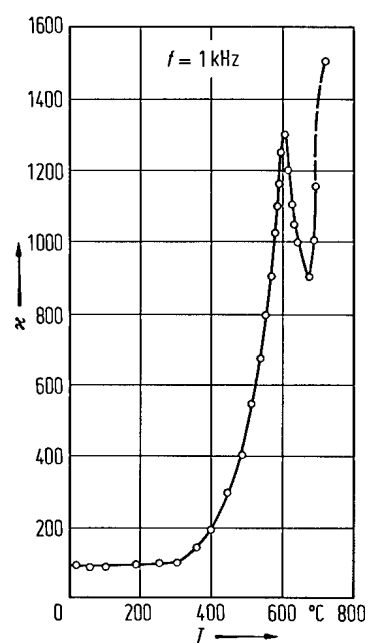


Fig. 1A-17-002. CdHfO_3 . κ vs. T [73Spi]. $f = 1 \text{ kHz}$.

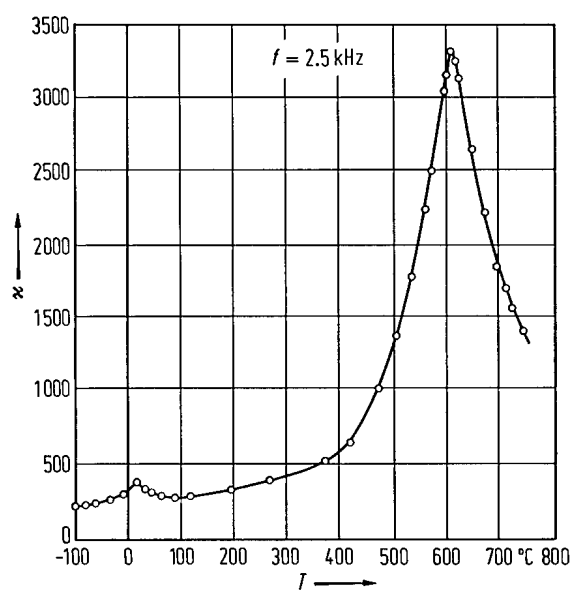


Fig. 1A-17-003. CdHfO_3 (ceramics). κ vs. T [68Ave].
 $f = 2.5 \text{ kHz}$.

References

- 68Ave Aver'yanov, L.N., Belyaev, I.N., Gol'tsov, Yu.I., Solov'ev, L.A., Spinko, R.I., Prokopalo, O.I.: Fiz. Tverd. Tela **10** (1968) 3416; Sov. Phys. Solid State (English Transl.) **10** (1969) 2698.
- 73Spi Spinko, R.I., Lebedev, V.N., Kolesova, R.V., Fesenko, E.G.: Kristallografiya **18** (1973) 849; Sov. Phys. Crystallogr. (English Transl.) **18** (1974) 536.
- 75Der Dernier, P.D., Remeika, J.P.: Mater. Res. Bull. **10** (1975) 187.