
No. 1C-c38 $\text{PbTiO}_3\text{--PbZrO}_3\text{--A}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (A = Ba, Sr, Ca)

1b	Phase diagram: Fig. 1C-c38-001. Ferroelectric transition temperature: Fig. 1C-c38-002.	
3a	Unit cell parameter: Fig. 1C-c38-003.	
5a	Dielectric constant: Fig. 1C-c38-004.	
7a	Piezoelectricity: Fig. 1C-c38-005.	
9a	Transmittance: see	81Och
b	Electrooptic effect: Table 1C-c38-001.	

Table 1C-c38-001. $(1-x)\text{Pb}(\text{Zr}_y\text{Ti}_{1-y})\text{O}_3 \cdot x \text{ A}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (ceramics) (A = Ba, Sr, Ca).
 r_c , \bar{L} : linear and quadratic electrooptic coefficient [81Och]. $\lambda = 632.8 \text{ nm}$.

Composition			r_c	\bar{L}
A	x	y	$[\cdot 10^{-10} \text{ mV}^{-1}]$	$[\cdot 10^{-16} \text{ m}^2 \text{ V}^{-2}]$
Sr	0.175	0.60	6.65	
Sr	0.175	0.55	4.56	
Ba	0.20	0.60	6.62	
Ba	0.20	0.50	3.99	
Ca	0.20	0.65		0.38
Sr	0.175	0.65		4.62
Sr	0.25	0.55		1.45

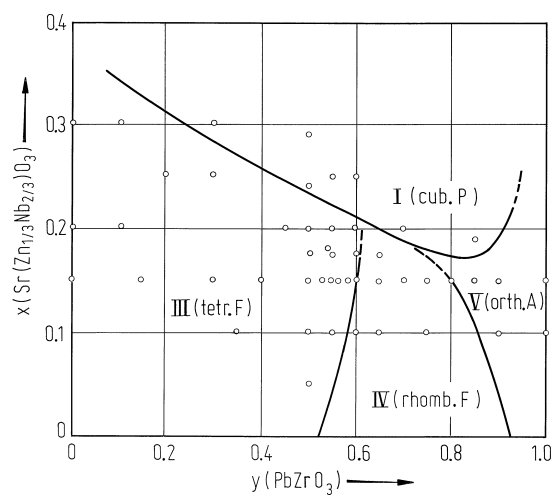


Fig. 1C-c38-001. $(1-x)\text{Pb}(\text{Ti}_{1-y}\text{Zr}_y)\text{O}_3 \cdot x \text{Sr}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$.
Phase diagram [81Ouc].

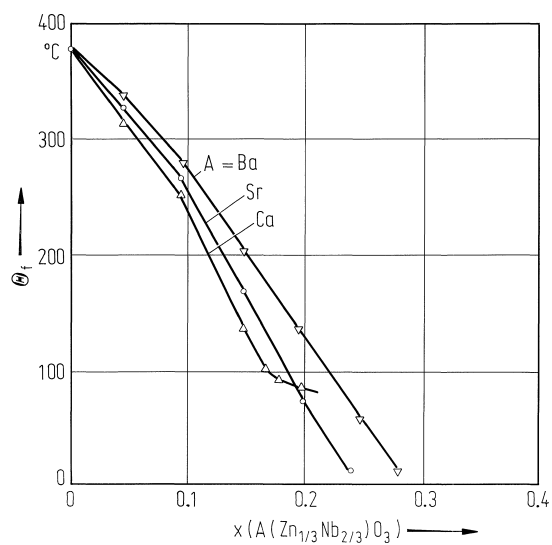


Fig. 1C-c38-002. $(1-x)\text{Pb}(\text{Zr}_{0.5}\text{Ti}_{0.5})\text{O}_3 \cdot x \text{A}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (ceramics) ($A = \text{Ba}, \text{Sr}, \text{Ca}$). Θ vs. x [81Och].

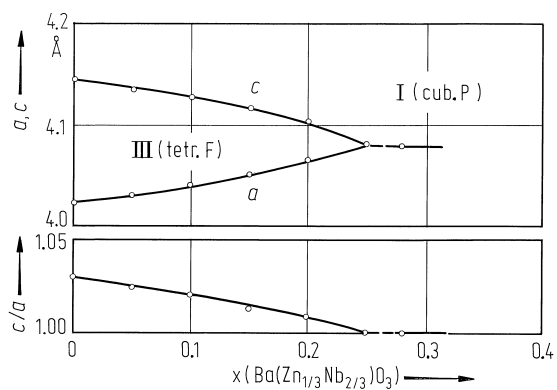


Fig. 1C-c38-003. $(1-x)\text{Pb}(\text{Zr}_{0.5}\text{Ti}_{0.5})\text{O}_3 \cdot x \text{Ba}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (ceramics). a , c , c/a vs. x [81Och].

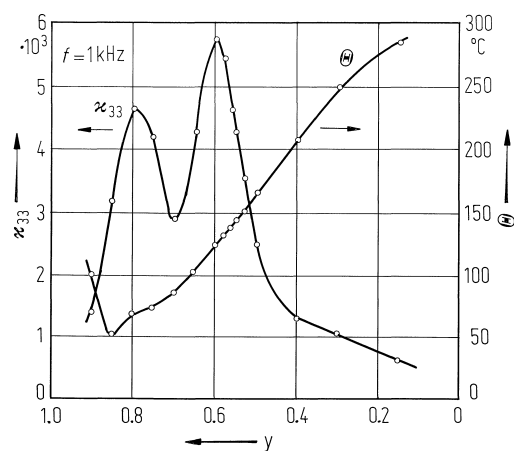


Fig. 1C-c38-004. $0.85 \text{ Pb}(\text{Zr}_y\text{Ti}_{1-y})\text{O}_3 \cdot 0.15 \text{ Sr}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (ceramics). κ_{33} , Θ vs. y [81Och]. $f = 1 \text{ kHz}$.

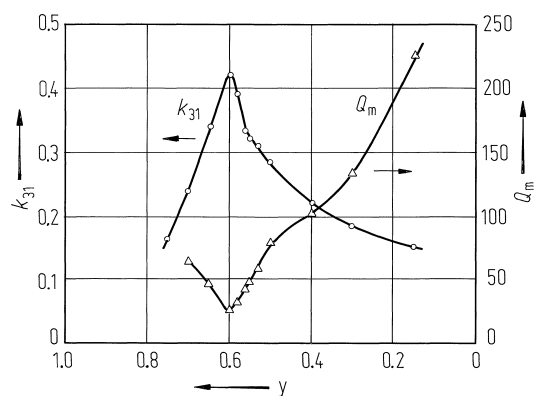


Fig. 1C-c38-005. $0.85 \text{ Pb}(\text{Zr}_y\text{Ti}_{1-y})\text{O}_3 \cdot 0.15 \text{ Sr}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (ceramics). k_{31} , Q_m vs. y [81Och]. Q_m : mechanical quality factor.

Reference

- 81Och Ochiai, T., Yokosuka, M., Miura, S., Marutake, M.: Jpn. J. Appl. Phys. **20**, Suppl. 20-4 (1981) 79.