**substance: $Mn_2O_3$**
**property: lattice parameters of doped $Mn_2O_3$**

**lattice parameter for the cubic phase in $(Mn_{1-x}Fe_x)_2O_3$**

| | | | | |
|---|---|---|---|---|
| *a* | 9.4146(1) Å | x = 0.017 | *T* = 23ºC | 71G |
| | 9.4156(2) Å | x = 0.097 | | |
| | 9.4158(2) Å | x = 0.49 | | |
| | 9.4126(3) Å | x = 0.63 | | |

**interionic distances in $(Mn_{1-x}Fe_x)_2O_3$**
(RT values)

(Mn,Fe) in 8(a) sites

| | | | | |
|---|---|---|---|---|
| $d_{av}$(Mn–O) | 2.003 Å | x = 0.017 | | 71G |
| | 2.009 Å | x = 0.63 | | |

(Mn, Fe) in 24(d) sites

| | | | |
|---|---|---|---|
| $d_{av}$(Mn–O) | 2.242 Å | x = 0.017 | *u* = – 0.0351 |
| | 1.898 Å | | |
| | 1.987 Å | | |
| | 2.147 Å | x = 0.63 | *u* = – 0.0347 |
| | 1.930 Å | | |
| | 2.033 Å | | |

Substitution of $Sc^{3+}$, $Ga^{3+}$, and $Cr^{3+}$ in the cubic phase, see Fig. 1 ($T_{tr}$ and *a*).

## References:

70G Geller, S., Espinosa, G. P.: Phys. Rev. B1 (1970) 3763.
71G Geller, S.: Acta Crystallogr. 27 (1971) 821.

**Fig. 1.**

$(Mn_{1-x}M_x)_2O_3$, M = Sc, Ga, Cr. (a) Lattice parameter vs. composition; (b) Orthorhombic-cubic transition temperature vs. composition [70G].