substance: $Fe_{1-x}Se$
property: crystal structure, physical properties

(The references in the last column refer to all data of this document)

lattice parameters

a	3.548 Å	x = 0	structure: hexagonal, B8, $D_{6h}^4 - P6_3/mmc$.	56H,
c	5.733 Å		Metal-semiconductor transition at 350 K. Ferrimagnetic, T_C = 445 K	66S, 71L, 73A1, 73A2

resistivity, Seebeck coefficient

ρ	10^3 Ω cm	p-type, poly-
S	10 μV K^{-1}	crystalline sample

energy gap

$E_{g,th}$	0.14 eV	$T > 350$ K

Figures to this document:

phase diagram: Fig. 1

electrical conductivity, Seebeck coefficient: Fig. 2

References:

56H Hirone, T., Chiba, S.: J. Phys. Soc. Jpn. 11 (1956) 666.

66S Serre, J., Druille, R.: Compt. Rend. Ser. B 262 (1966) 639.

71L Landolt-Börnstein (New Series), ed.: K. H. Hellwege, Vol. III/6, Springer Verlag: Berlin, Heidelberg, New York 1971.

73A1 Abdullaev, G. B., Akhmedov, N. R., Yalilov, N. Z., Abdinov. D. Sh.: Phys. Status Solidi (a) 20 (1973) K29.

73A2 Akhmedov, N. R., Dzhalilov, N. Z., Abdinov, D. Sh.: Inorg. Mater. 9 (1973) 1271.

Fig. 1.

Fe – Se. Phase diagram [66S].

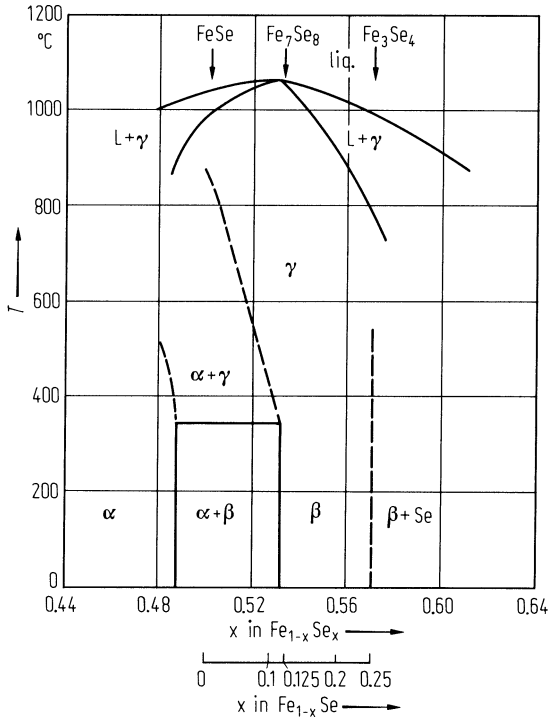

Fig. 2.

Electrical conductivity (a) and thermoelectric power (b) vs. reciprocal temperature for *1*: Fe_7Se_8, *2*: Fe_3Se_4, *3*: Fe_2Se_3, *4*: FeSe [73A2]. Polycrystalline samples.