substance: $FeTe_2$
property: crystal structure, physical properties

$FeTe_2$ (pyrite)

(S: structure (space group), CG: crystal growth, C: colour).

(The references in the last column refer to all data of $FeTe_2$ (pyrite))

lattice parameters

a	6.293 Å		S: pyrite, C2, T_h^6 – Pa3	68B, 71L

resistivity, Seebeck coefficient

ρ	$2 \cdot 10^{-3}$ Ω cm	n-type	CG: under 65 kbar pressure at
S	– 25 μV K^{-1}	synthetic	1200ºC
		single crystal	C: silvery

$FeTe_2$ (marcasite)

(S: structure (space group), CG: crystal growth).

(The references in the last column refer to all data of $FeTe_2$ (marcasite))

lattice parameters

a	5.265 Å		S: marcasite, C18, D_{2h}^{12}-Pnnm	61D,
b	6.268 Å		CG: halogen transport	70B1,
c	3.874 Å			70B2, 71L

resistivity, Seebeck coefficient

ρ	$1.5 \cdot 10^{-2}$ Ω cm	p-type, poly-
S	64 μV K^{-1}	crystalline sample

energy gap

$E_{g,th}$	0.92 eV	$T > 600$ K

Figures to this document:

electrical conductivity: Fig. 1

References:

61D Dudkin, L. D., Vaidanich, V. I.: Sov. Phys. Solid State 2 (1961) 1384.

68B Bertaut, E. F., Cohen, J., Lambert-Andron, H., Mollard, P.: J. Phys. (Paris) 29 (1968) 813.

70B1 Brostigen, G., Kjekshus, A.: Acta Chem. Scand. 24 (1970) 1925.

70B2 Brostigen, G., Kjekshus, A.: Acta Chem. Scand. 24 (1970) 2993.

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

Fig. 1.

$FeTe_2$. Electrical conductivity vs. reciprocal temperature [61D]. σ in Ω^{-1} cm^{-1}. Polycrystalline marcasite.