

property: crystal structure, physical properties

lattice parameters

EuH_{2+x} [83B]

$$\mathbf{x} = \mathbf{0}$$

structure: orthorhombic (Pnma)

 a 6.247 Å

| | |
|-----|---------|
| b | 3.805 Å |
|-----|---------|

 c 7.196 Å

p_{eff} 7.948 μ_B

effective magnetic moment

temperature dependence of

susceptibility: Fig. 1

paramagnetic Curie temperature

ferromagnetic Curie temperature

optical absorption Fig. 2

SC-M transition: $T = 105$ K

93V

M-SC transition: $T = 260(1)$ K (cooling)M-SC transition: $T = 265(1)$ K (heating) Θ_p 23.13 K T_C 18.3 K E_g 1.85 eV

semiconductor: $x = 0.275$ in EuH_{2+x}

ρ 484 $\mu\Omega\text{cm}$ $T = 260\text{ K}$

501 $\mu\Omega\text{cm}$ $T = 265\text{ K}$

References:

- 56K Korst, W. L., Warf, J. C.: Acta Cryst. 9 (1956) 452.
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- 83B Bischof, R., Kaldis, E., Wachter, P.: J. Magn. Magn. Mater. 31-34 (1983) 255-256.
- 93V Vajda, P., Daou J.N.: "The rare-earth hydrogen systems" in: Metal-Hydrogen Systems, Vol. 1, Aladjem, A., Lewis, F.A. (eds.), Weinheim: VCH, ch. 3a (1993).

Fig. 1.

EuH₂. Inverse and initial (insert) susceptibility (in CGS-emu) [83B].

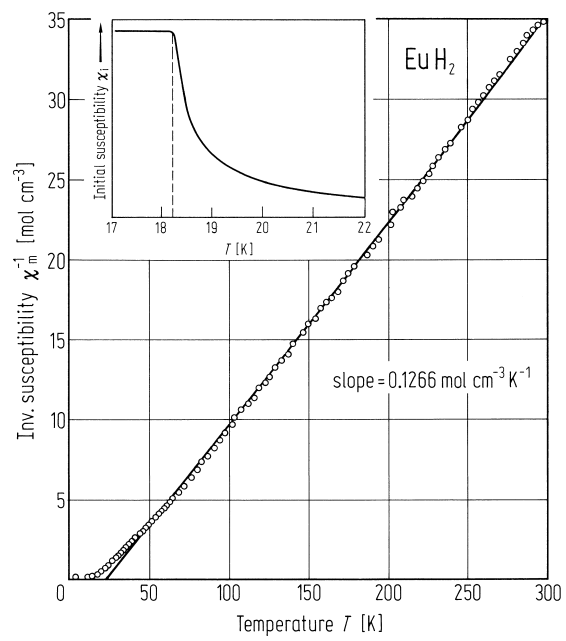


Fig. 2.

EuH₂. Absorption power at 300 K [83B].

