

substance: YbTe  
property: crystal structure, physical properties

crystal structure                      cubic (O<sub>h</sub><sup>5</sup> – Fm3m)

**lattice parameters**

*a*                      6.359 Å                      79K

**melting point**

*T*<sub>m</sub>                      2200°C                      81K

**energy gap**

*E*<sub>g</sub>                      1.8 eV                      74N

                            2.0 eV                      74S

*dE*<sub>g</sub>/*dp*                      – 11.2 meV kbar<sup>–1</sup>                      74N

**bulk modulus**

*B*                      460(50) kbar                      72C

**phonon wavenumbers**

(*ν/c*)<sub>TO</sub>                      98(3) cm<sup>–1</sup>                      IR measurements                      75M

(*ν/c*)<sub>LO</sub>                      145(3) cm<sup>–1</sup>

**resistivity**

*ρ*                      10<sup>4</sup>...10<sup>6</sup> Ω cm                      60B,  
64R

*Figures and further references:*

variation of **lattice parameter** [81K]

**phase diagram:** Fig. 2

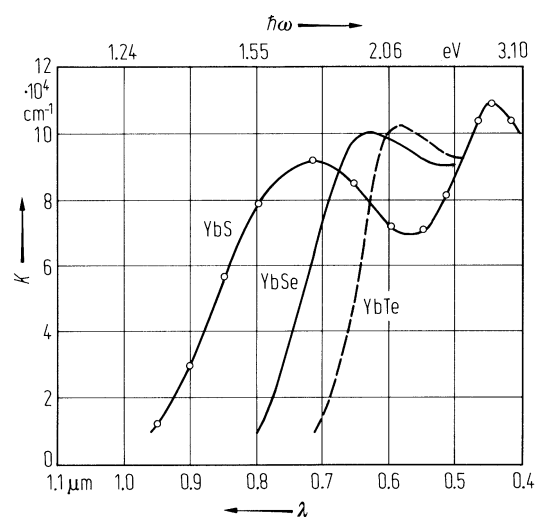
**optical absorption:** Fig. 1.

## References:

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**Fig. 1.**

Yb-chalcogenides. Absorption coefficient vs. wavelength (photon energy) for thin films on NaCl substrates at atmospheric pressure [74N].



**Fig. 2.**

$\text{Yb}_x\text{Te}_{1-x}$ . Preliminary phase diagram as compiled from DTA measurements in sealed tungsten crucibles [81K].

