substance: $RhSb_2$
property: crystal structure, physical properties

Energy level scheme is similar to that given for $CoAs_2$ (Fig. 1). semiconductor [63H].

resistivity

ρ	0.002 Ω cm	RT	polycrystalline sample, extrinsic conductivity range	65J

thermoelectric power

S	+ 30 μV K^{-1}	RT	polycrystalline material	65J

magnetic susceptibility
(in 10^{-6} cm^3 mol^{-1}, χ in CGS units)

χ_m	– 66	T = 77 K	powdered sample	63H
	– 70	T = 295 K		
	– 125	T = 80...750 K, B = 0.8 T	polycrystalline sample. sintered at 1073 K	71K

far infrared absorption for spectrum in the range 50...400 cm^{-1}, see [83L].

lattice parameter $a(T)$, $b(T)$, $c(T)$, $\beta(T)$ at T = 300...1300 K: Fig. 2; unit-cell volume linear in T [77K].

volume expansion coefficient

β	$3.7 \cdot 10^{-5}$ K^{-1}	T = 300 K	from graphic representation, unit-cell volume linear in T in the range 300...1300 K	77K

structural transformation

(monoclinic → orthorhombic)

T_{tr}	1070 K		second-order transition to the loellingite structure	77K

peritectic temperature

T_{perit}	1373 K (?)		based on tentative phase diagram	60Z

Comparative tables on structural data of transition metal dipnictides:

structure, chemical bond see document ,

crystallographical dat of compounds with octahedrally coordinated cations, see document ,

interatomic distance in arsenopyrite-type phases, see document .

References:

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Fig. 1.

$CoAs_2$. Energy-level scheme for the valence electrons in the arsenopyrite-type phase with formal d^5 configuration [72G].

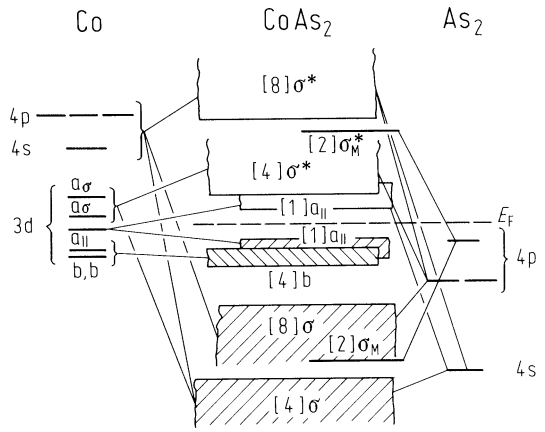

Fig. 2.

$RhSb_2$. Lattice parameters vs. temperature [77K]. The unit-cell volume varies linearly with temperature.