substance: Ru_2Sn_3
property: physical properties

Ru_2Sn_3 (r) (room-temperature modification)

Probably semiconducting with a very small energy gap.

Extrapolation of E_g of $Ru_2(Ge,Sn)_3$ (h) yields $E_g \approx 0.1$ eV for Ru_2Sn_3. For pure Ru_2Sn_3 (h) $\rho(T)$ showed a linear increase between 750 and 1100 K [80S].

magnetic susceptibility

χ_g	$-0.30\cdot10^{-6}$ cm^3 g^{-1}	T = 4 K, B = 5...10 kG	Faraday method, powder sample, χ in CGS-emu	80S
	$-0.33\cdot10^{-6}$ cm^3 g^{-1}	T = 200 K		
	$-0.35\cdot10^{-6}$ cm^3 g^{-1}	T = 400 K, on heating		
	$-0.34\cdot10^{-6}$ cm^3 g^{-1}	T = 400 K, on cooling from 700 K		

transition temperatures

T_{tr}	< 100 K	diffusionless phase transition to the orthorhombic modification	75P
	300...500 K	first-order(?) transition to an unknown structure (this phase was not detected on high-temperature X-ray patterns up to 800°C [75P])	80S
T_{dec}	1500 K	peritectoidic reaction	80S

References:

75P Poutcharovsky, D. J., Yvon, K., Parthé, F.: J. Less-Common Met. 40 (1975) 139.
80S Susz, C. P., Muller, J., Yvon, K., Parthé, F.: J. Less-Common Met. 71 (1980) P1.