

substance: FeAs₂

property: physical properties of Se-doped material

FeAs_{1.94}Se_{0.06}:

metallic behavior for $T = 77 \dots 330$ K: $\rho [\mu\Omega \text{ cm}] = 3.05 T + 240$;

paramagnetic with Curie-Weiss behavior: $C_m = 0.027 \text{ cm}^3 \text{ K mol}^{-1}$, $\Theta_p = -206$ K; i.e. $p_{\text{eff}} = 1.90 \mu_B/\text{Fe}^{\text{III}}$ [74B]

Hall coefficient constant from 77 to 300 K, yielding $n = 1.3 \cdot 10^{21} \text{ electrons/cm}^3 = 0.06 \text{ electrons/Fe atoms}$, corresponding to the number of Se atoms [74B].

References:

74B Baghdadi, A., Wold, A.: J. Phys. Chem. Solids 35 (1974) 811.