substance: Mn_nSi_{2n-m}
property: transport and optical properties of $Mn_{11}Si_{19}$, $Mn_{26}Si_{45}$

mobilities

μ_p	230 $cm^2/V\ s$	T = 300 K	Hall mobility	69I
	16 $cm^2/V\ s$	T = 800 K		
	5...8 $cm^2/V\ s$	T = 300 K		74A
$\mu_{p\parallel}$	1.7 $cm^2/V\ s$	T = 300 K		74A
$\mu_{p\perp}$	7.9 $cm^2/V\ s$	T = 300 K		74A

mobility ratio

b	0.03	T = 300 K	estimated from E_g and dS/dT	74A

carrier concentration

(see Fig. 1)

p	$2 \cdot 10^{19}\ cm^{-3}$	T = 300 K	estimated from $R_H(T)$	69I
	$12 \cdot 10^{19}\ cm^{-3}$	T = 800 K		
	$4 \cdot 10^{19}\ cm^{-3}$	T = 300 K		69N1
	$73 \cdot 10^{19}\ cm^{-3}$	T = 300 K		74A

conductivity

σ	160 $\Omega^{-1}\ cm^{-1}$	along [001], RT	extrinsic region	69I
	200 $\Omega^{-1}\ cm^{-1}$			74A
	800 $\Omega^{-1}\ cm^{-1}$	along [100]		69I
	932 $\Omega^{-1}\ cm^{-1}$			74A

thermoelectric power

S	+ 170 $\mu V\ K^{-1}$	along [001], RT	extrinsic region	69I
	+ 134 $\mu V\ K^{-1}$			74A
	+ 105 $\mu V\ K^{-1}$	along [100], RT		69I
	+ 81 $\mu V\ K^{-1}$			74A

thermal conductivity

κ	0.021 $W\ cm^{-1}\ K^{-1}$	along [001], RT	extrinsic region	69I
	0.018 $W\ cm^{-1}\ K^{-1}$			74A
	0.043 $W\ cm^{-1}\ K^{-1}$	along [100], RT		69I
	0.037 $W\ cm^{-1}\ K^{-1}$			74A

Figures to resistivity $\rho(T)$, Hall coefficient $R_H(T)$, thermopower $S(T)$: Figs. 2...6.

optical absorption

see Fig. 7.

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Fig. 1.

$MnSi_{\approx 1.73}$. Concentrations of holes (p_o+p_i) and electrons (n_i) vs. temperature [71N], n_i, p_i: intrinsic concentrations, $p_o = 1/eR_H$ (impurity region).

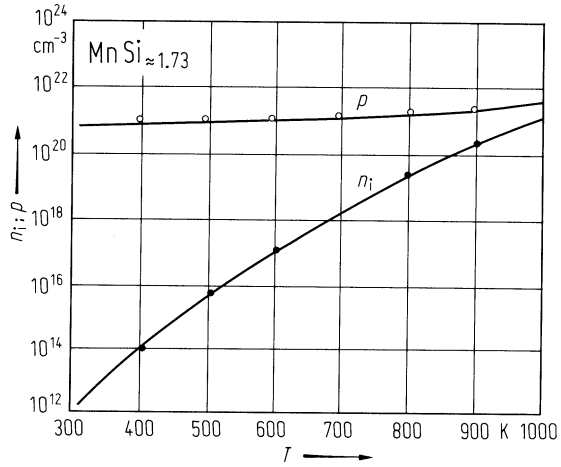

Fig. 2.

Mn_nSi_{2n-m} ($Mn_{11}Si_{19}$?). Electrical conductivity σ and Hall coefficient R_H vs. temperature for p-type single crystals of unknown orientation [69N1, 69N2].

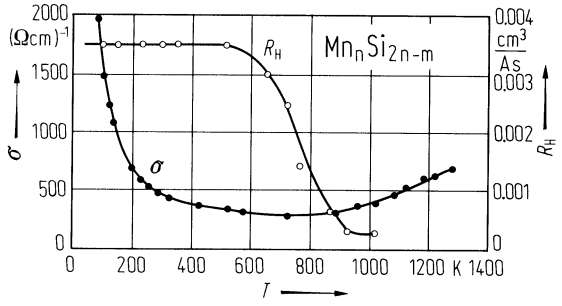

Fig. 3.

Mn_nSi_{2n-m} ($Mn_{11}Si_{19}$?). Thermoelectric power S and thermal conductivity κ vs. temperature tor p-type single crystals of unknown orientation [69N1, 69N2].

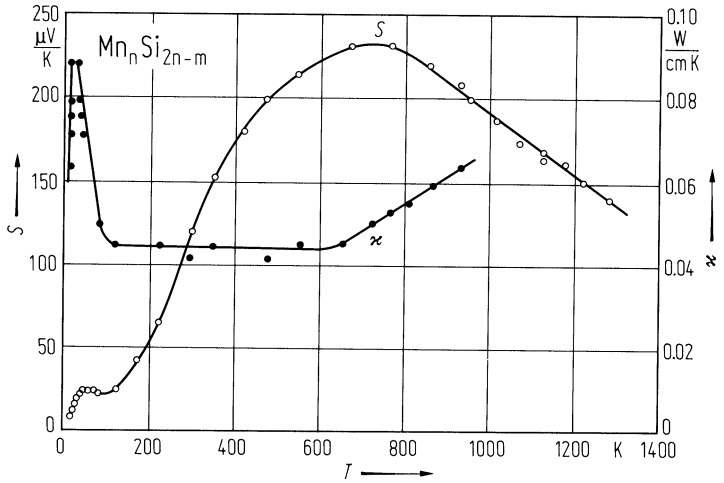

Fig. 4.

Mn_nSi_{2n-m} ($Mn_{11}Si_{19}$?). Electrical conductivity σ (a), thermoelectric power S (b) and thermal conductivity κ (c) [69I]. ||: measured along [001], ⊥: measured along [100].

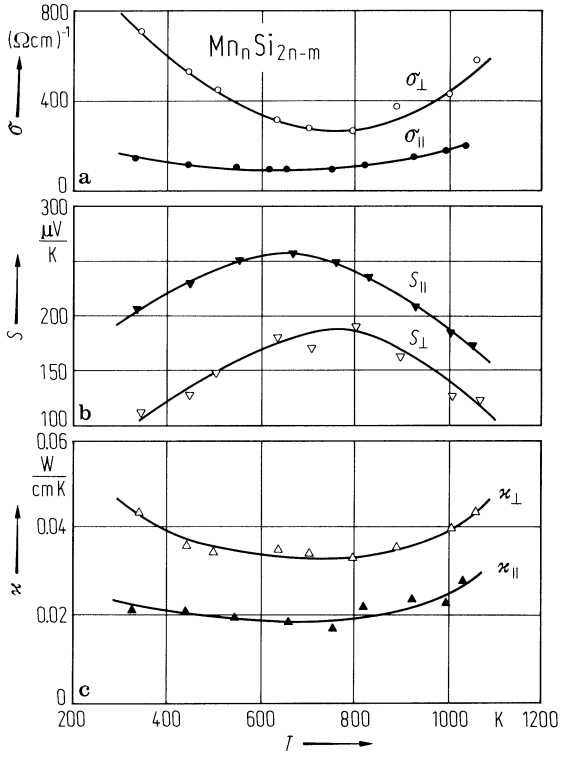

Fig. 5.

$MnSi_{1.72}$. Electrical conductivity vs. reciprocal temperature [69I]. $\sigma_{\parallel}$: current I along [001], $\sigma_{\perp}$: current I along [100].

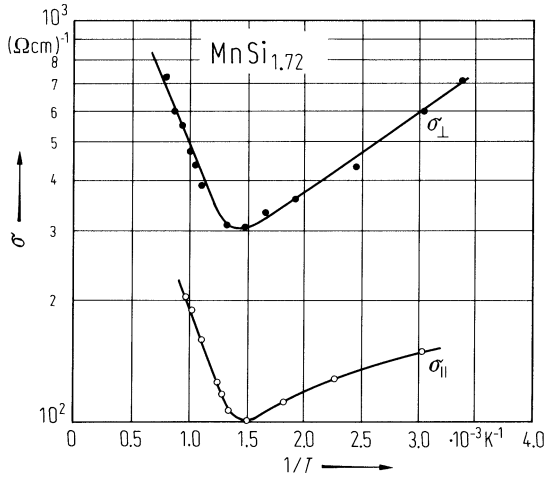

Fig. 6.

$MnSi_{1.72}$. Hall coefficient vs. reciprocal temperature [69I]. *1*: magnetic field strength *H* parallel to [001], *2*: current *I* along [001], *3*: *H* and *I* perpendicular to [001].

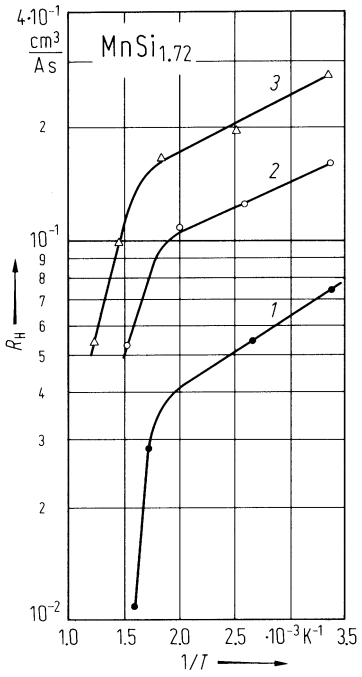

Fig. 7.

$MnSi_{\approx 1.73}$. Square of the absorption coefficient vs. photon energy [79Z].