J Mater Sci: Mater Electron (2022) 33:27169–27170

Correction

Correction to: Study of high temperature electrical conductivity and thermoelectric performance in $Mg_{2-\delta}Si_{0.35-x}Sn_{0.65}Ge_x$ (δ = 0–0.04 and x = 0, 0.05) intermetallic alloys

Sushmitha P. Rao[1], Pritam Sarkar[2], Ajay Singh[2], R. N. Bhowmik[3], and Vijaylakshmi Dayal[1,*]

[1] *Department of Physics, Maharaja Institute of Technology Mysore (Aff. to. VTU-Belagavi), Mandya, Karnataka 571 477, India*
[2] *Technical Physics & Prototype Engineering Division, Bhabha Atomic Research Center, Mumbai 400 085, India*
[3] *Department of Physics, Pondicherry University, R. Venkataraman Nagar, Kalapet, Pondicherry 605 014, India*

Published online:
21 November 2022

Correction to:
J Mater Sci: Mater Electron (2022) 33:17842–17854
https://doi.org/10.1007/s10854-022-08648-1

An article of this title was published in the *Journal of Material Science: Material in Electronics* (2022) 33: 17842–17854. Unfortunately, an error occurred in the calculation of % change in the relevant parameter mentioned in Table 4 and the related explanation in the text. The corrections are incorporated in Table 4 and should be read as presented below:

The followings are the instances influenced due to correction in Table 4 and must be read as follows:

Page 17842 (abstract), line (14–17): Should be read as "The synergetic confluence of improved power factor and low thermal conductivity in $Mg_{1.98}Si_{0.3}Sn_{0.65}Ge_{0.05}$ resulted in the highest ZT value of 0.08 at ~ 523 K, which is ~ **300%** higher than the ZT value (~ 0.02) of the parent $Mg_2Si_{0.35}Sn_{0.65}$ alloy".

Page 17851, line (14–18): Should be read as "At room temperature, k_L of Ge doped alloys are nearly ~ **61%** lower than that of the parent alloy, suggesting that Ge substitution increases phonon scattering due to the complexity of band structure".

The original article can be found online at https://doi.org/10.1007/s10854-022-08648-1.

Address correspondence to E-mail: drvldayal@gmail.com

Table 4 Experimental values and percentage changes are tabulated from the experimental data of $Mg_{2-\delta}Si_{0.35-x}Sn_{0.65}Ge_x$ (δ = 0, 0.02, 0.04) and (x = 0, 0.05) at 523 K

Samples	σ (S/m) $\times 10^4$	S (V/K) $\times 10^{-6}$	PF (W/mK^2) $\times 10^{-6}$	K (W/mK)	K_l (W/mK)	ZT
$Mg_2Si_{0.35}Sn_{0.65}$ to $Mg_{1.98}Si_{0.30}Sn_{0.65}Ge_{0.05}$	1.18 ↓ by ~ 9%	116 ↑ by ~ 37%	160 ↑ by ~ 70%	3.86 ↓ by ~ 55%	3.74 ↓ by ~ 56%	0.02 ↑ by ~ 300%
	1.07	159	272	1.74	1.63	0.08
$Mg_2Si_{0.35}Sn_{0.65}$ to $Mg_{1.96}Si_{0.30}Sn_{0.65}Ge_{0.05}$	1.18 ↓ by ~ 41%	116 ↑ by ~ 65%	160 ↑ by ~ 61%	3.86 ↓ by ~ 56%	3.74 ↓ by ~ 56%	0.02 ↑ by ~ 290%
	0.7	191	257	1.7	1.63	0.078

Page 17851, line (36–41): Should be read as "Overall, we observe that *ZT* increases by ~ **300%** and ~ **290%** in $Mg_{1.98}Si_{0.30}Sn_{0.65}Ge_{0.05}$ and $Mg_{1.96}Si_{0.30}Sn_{0.65}Ge_{0.05}$, respectively, compared to $Mg_2Si_{0.35}Sn_{0.65}$ at 523 K; this further suggests that Ge substitution reduces the bipolar effect, significantly improving the thermoelectric figure-of-merit".

Page 17851, line (58–62): Should be read as "Furthermore, the increase of *ZT* by ~ **167%** $Mg_{1.96}Si_{0.30}Sn_{0.65}Ge_{0.05}$ (this study) than Mg_2Si [61] may be attributed to the reduction of bipolar effect by Ge substitution, which facilitates reduction in thermal conductivity, as discussed earlier".

The authors apologise for any inconvenience caused.