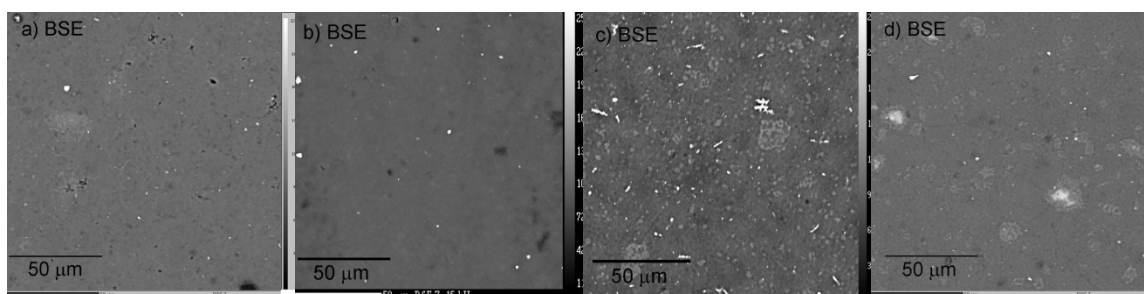


# Synthesis and characterization of Mg<sub>2</sub>Si/Si nanocomposites prepared from MgH<sub>2</sub> and silicon, and their thermoelectric properties

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**Table S1:** Thermal diffusivity data and geometric density of Mg<sub>2</sub>Si/xSi (x = 0, 2.5, 5, 10 mol.%) composites.

Temperature (K)	Thermal Diffusivity (cm <sup>2</sup> /s)	Temperature (K)	Thermal Diffusivity (cm <sup>2</sup> /s)	Temperature (K)	Thermal Diffusivity (cm <sup>2</sup> /s)	Temperature (K)	Thermal Diffusivity (cm <sup>2</sup> /s)
x = 0		x = 2.5		x = 5		x = 10	
d = 2.039 g/cm <sup>3</sup>		d = 2.026 g/cm <sup>3</sup>		d = 2.184 g/cm <sup>3</sup>		d = 2.087 g/cm <sup>3</sup>	
C <sub>p</sub> = -2.57535556801378 × 10 <sup>-10</sup> T <sup>3</sup> + 3.74803979980809 × 10 <sup>-07</sup> T <sup>2</sup> - 0.0000444739735761767T + 0.887089439389649							
296.4	0.03370	296.4	0.03356	296.4	0.02982	296.4	0.03426
391.6	0.02669	391.6	0.02626	391.6	0.02386	391.6	0.02710
492.8	0.02232	492.8	0.02218	492.8	0.02044	492.8	0.02339
585.4	0.01966	585.4	0.01966	585.4	0.01803	585.4	0.02054
679.1	0.01761	679.1	0.01760	679.1	0.01609	679.1	0.01855
776.4	0.01595	776.4	0.01590	776.4	0.01485	776.4	0.01682



**Figure S1:** BSE images from microprobe analysis of a) 1% Bi doped Mg<sub>2</sub>Si, b) Mg<sub>2</sub>Si with 2.5 mol.% Si, c) Mg<sub>2</sub>Si with 5 mol.% Si, d) Mg<sub>2</sub>Si with 10 mol.% Si composites. The relative intensities go down from white (top) to black (bottom).

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