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ACCEPTED MANUSCRIPT

Thermoelectric Skutterudite/oxide nanocomposites: effective decoupling of electrical and thermal conductivity by functional interfaces.

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Abstract

Nanocomposites that combine percolated nano-CoSb₃ semiconductors with isolated nano-oxide clusters are shown as an effective approach to decouple electrical and thermal conductivity in thermoelectric applications through the formation of functional interfaces. This type of decoupling is very important to increase the Figure of Merit (zT) of thermoelectrics and it is one of the greatest challenges searched by the community. We carry out an innovative synthesis of Skutterudite/oxide nanocomposites in air by high energy milling and sintering by Spark Plasma Sintering, where functional interfaces are developed *in situ*. A confocal Raman Microscopy study evidences

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