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(54) Title: THERMOELECTRIC SKUTTERUDITE COMPOSITIONS AND METHODS FOR PRODUCING THE SAME

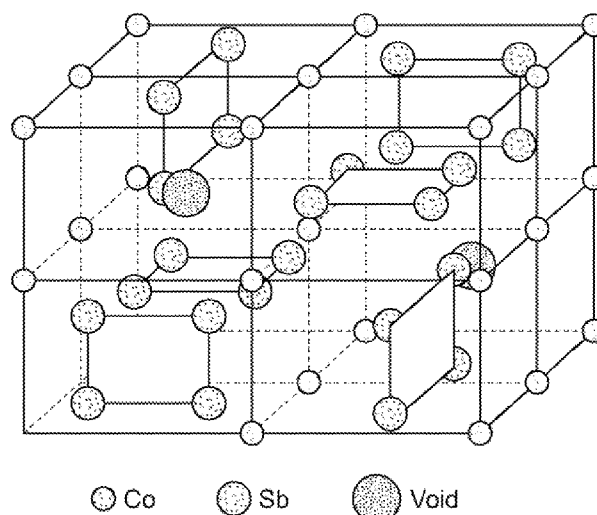


FIG. 1

(57) Abstract: Compositions related to skutterudite-based thermoelectric materials are disclosed. Such compositions can result in materials that have enhanced ZT values relative to one or more bulk materials from which the compositions are derived. Thermoelectric materials such as n-type and p-type skutterudites with high thermoelectric figures-of-merit can include materials with filler atoms and/or materials formed by compacting particles (e.g., nanoparticles) into a material with a plurality of grains each having a portion having a skutterudite-based structure. Methods of forming thermoelectric skutterudites, which can include the use of hot press processes to consolidate particles, are also disclosed. The particles to be consolidated can be derived from (e.g., grinded from), skutterudite-based bulk materials, elemental materials, other non-Skutterudite-based materials, or combinations of such materials.



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