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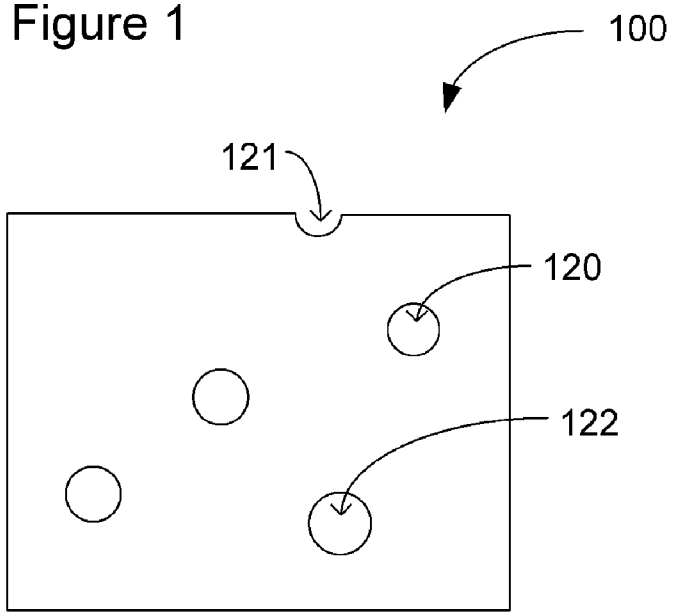
[Continued on next page]

(54) Title: THERMOELECTRIC MATERIALS HAVING POROSITY

Figure 1



(57) Abstract: A thermoelectric material and a method of making a thermoelectric material are provided. In certain embodiments, the thermoelectric material comprises at least 10 volume percent porosity. In some embodiments, the thermoelectric material has a zT greater than about 1.2 at a temperature of about 375 K. In some embodiments, the thermoelectric material comprises a topological thermoelectric material. In some embodiments, the thermoelectric material comprises a general composition of $(Bi_{1-x}Sb_x)_u(Te_{1-y}Se_y)_w$, wherein $0 \leq x \leq 1$, $0 \leq y \leq 1$, $1.8 \leq u \leq 2.2$, $2.8 \leq w \leq 3.2$. In further embodiments, the thermoelectric material includes a compound having at least one group IV element and at least one group VI element. In certain embodiments, the method includes providing a powder comprising a thermoelectric composition, pressing the powder, and sintering the powder to form the thermoelectric material.

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LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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ADD.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H01L C01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 455 051 A2 (MATSUSHITA ELECTRIC IND CO LTD [JP]) 6 November 1991 (1991-11-06) abstract page 2, lines 30-33 page 3, lines 7-8 page 4, lines 10-16,16-28 table 1	1-3, 10-18, 21-25, 27-31,35

X	JP 2002 033525 A (NHK SPRING CO LTD) 31 January 2002 (2002-01-31) abstract	1-3, 27-29

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA/	Authorized officer
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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