

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 February 2012 (02.02.2012)

PCT

(10) International Publication Number
WO 2012/013956 A1

(51) International Patent Classification:

C04B 35/26 (2006.01) **H01L 41/187** (2006.01)
C04B 35/462 (2006.01) **H01L 41/24** (2006.01)
C04B 35/475 (2006.01)

(21) International Application Number:

PCT/GB2011/051356

(22) International Filing Date:

19 July 2011 (19.07.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1012637.3 28 July 2010 (28.07.2010) GB
1100696.2 17 January 2011 (17.01.2011) GB

(71) Applicant (for all designated States except US): **UNIVERSITY OF LEEDS** [GB/GB]; Clarendon Road, Leeds Yorkshire LS2 9JT (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BELL, Andrew, John** [GB/GB]; Institute for Materials Research, Houldsworth Building, University of Leeds, Clarendon Road, Leeds Yorkshire LS2 9JT (GB). **COMYN, Timothy** [GB/GB]; Institute for Materials Research, Houldsworth Building, University of Leeds, Clarendon Road, Leeds Yorkshire LS2 9JT (GB).

(74) Agent: **STUTTARD, Garry**; Tower North Central, Merion Way, Leeds Yorkshire LS2 8PA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, 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).

Published:

— with international search report (Art. 21(3))

(54) Title: CERAMIC

(57) Abstract: The present invention relates to a ceramic comprising (or consisting essentially of) a solid solution containing Bi, K, Ti and Fe (and optionally Pb) which exhibits piezoelectric behaviour.



WO 2012/013956 A1