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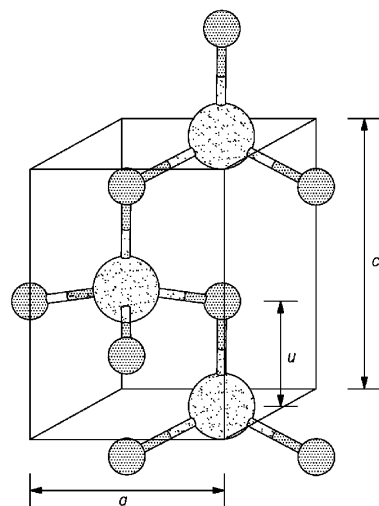


FIG.4

(57) Abstract: A piezoelectric material comprises AlN doped with cations of one or more elements selected from the group consisting of: one of Sb, Ta, Nb, or Ge; Cr in combination with one or more of B, Sc, Y, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, or Yb; one of Nb and Ta in combination with one of Li, Mg, Ca, Ni, Co, and Zn; Ca in combination with one of Si, Ge, Ti, Zr, and Hf; Mg in combination with one of Si, Ge, and Ti; and one or more of Co, Sb, Ta, Nb, Si, or Ge in combination with one or more of Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, or Yb. The cations at least partially substitute for Al in the crystal structure of the piezoelectric material.

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