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INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

(Om Prakash Gupta)
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(57) Abstract :

ABSTRACT A method for synthesizing multi-walled carbon nanotubes (MWCNTs) reinforced pure potassium sodium niobate (KNN) piezoelectric ceramic material comprising synthesizing KNN nano-crystalline powders, filtering MWCNTs using ferrous sulphate and distilled water, dispersing a substantial mass of filtered MWCNTs into a predetermined quantity of ethanol to form a first dispersed solution, incubating a substantial amount of KNN nano-crystalline powders into a predetermined quantity of ethanol to form a second dispersed solution, mixing the first and second dispersed solutions to form homogenised MWCNTs reinforced KNN mixture, drying the reinforced mixture to remove moisture and ethanol content, binding the reinforced mixture with a binder solution and microwave sintering the bonded reinforced mixture to obtain a densified lead-free piezoelectric ceramic material, wherein the lead-free piezoelectric ceramic material provides substantially good piezoelectric and dielectric properties when employed in plurality of sensor and energy harvesting applications. The binding solution comprises polyvinyl alcohol (PVA) solution.

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