Analytic of Design and Fabrication Interdigitated Electrodes Composite Piezoelectric Ceramic Device

張秉鈞、鄭江河

E-mail: 9419570@mail.dyu.edu.tw

ABSTRACT

The aims objective at make a suitable electrode which is interdigitated, and producing coupled-piezoelectric unit with high 33 d coefficient. Traditional piezoelectric ceramic risks breakup. To develops new type and high performance sensor and actuators and structure with self-adaptable ability have high potency for future. In order to prefer the sensor and actuator ability of it, we need the technology of interdigitate electro to make it. First we use ANSYS software to analysis the design of the electrode, and optimize the structure. Consider the electric field disburse when the structure under high polarized electric field. Use the result of analysis to collocate suitable polarized distance and thickness to polarize the structure. After get suitable interdigitated electrode and polarize the piezoelectric ceramic. We can make a normal process to make the piezoelectric ceramic. And we can get it ’s coefficient and to make a compare with ANSYS analysis. In the future will goalward to high self-adaptable ability and high sensitivity and actuator.

Keywords : composite piezoelectric materials ； interdigitated electrode；polarization； ceramic fiber

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