Investigations over the wave interaction problems into the functionally graded piezoelectric (FGP) composites

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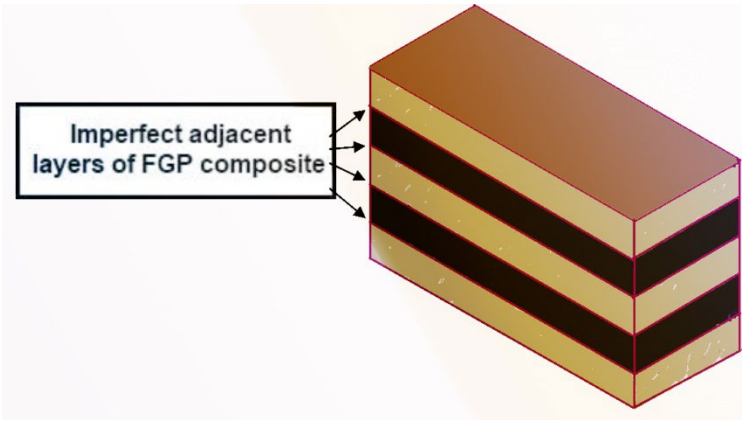
Graphical Abstract/ Layout



Project Description:

The assumption of perfect interfaces (wielded contacts) between the adjacent media are perfectly bonded may not always be true, it may be imperfect due to various environmental factors and thermal/mechanical loadings. In the design and application of FGP sensors, it is a necessity to consider a potentially imperfect interface. Therefore, it has been become important to study the surface wave propagations at the imperfect interface between adjacent layers of functionally graded piezoelectric (FGP) composites. Rayleigh surface waves are widely used in various electronic devices at high ultrasonic frequencies, while Love-type waves propagating in piezoelectric materials are widely used in transducers and sensors. The problems of this project will give a detailed analysis over the Love-type and Rayleigh surface wave interactions into a functionally graded piezoelectric (FGP) composite having imperfect/sliding/spring interfaces into the structure. Furthermore, the proposed work will analyze the characteristics of wave propagation FGP composites with some physical circumstances and its dependence on various physical parameters.

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Department of Science and Technology (DST)

Name of the Scheme
Teachers Association for Research Excellence (TARE)

Sanctioned Amount (in Rupees)
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Duration of the Project (years)
3