Enhanced resonant magnetoelectric coupling in frequency-tunable composite multiferroic bimorph structures

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Abstract: We report on a giant tunable enhanced resonant magnetoelectric (ME) coupling in multiferroic magnetostrictive/piezoelectric composite bimorph structures. The approach uses a magnetic/electric field assisted stress-reconfigurable resonance to produce frequency tuning of up to 100%. The studies were performed by laser Doppler spectroscopy. We also show that this principle of a continuously tuned resonance might be used to improve sensitivity for ME magnetic sensors. © 2011 American Institute of Physics.

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