

## Piezoelectric Finite Beam with LQR Control

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**Abstract.** In the contribution, finite element beam with thick FGM core and thin piezoelectric layers is presented. Individual submatrices of FEM formulation are developed using concept of transfer functions and transfer constants. New beam element is implemented in FEM code MultiFEM, where state space model of FGM beam with piezoelectric layers with LQR control is analyzed.