



Vortrag im Gästeprogramm des GRK 2075

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Optimized fuzzy control on piezocomposite plates including delaminations

Dienstag, 22.11.2016, 10.00 Uhr
Institut für Wissenschaftliches Rechnen, Raum 812
Mühlenpfordtstrasse 23, 38106 Braunschweig

Finite element models of multilayered piezocomposite plates, which incorporates the electro-mechanical coupling and the adhesive layer are prepared and used for static and dynamic analysis and delamination modeling. The dynamical model is coupled with fuzzy and neurofuzzy controllers in order to model a smart plate. The effectiveness of active vibration control, when delamination appears in these structures, is investigated numerically. The fine tuning of the parameters of control is done using genetic algorithms or particle swarm optimization. Based on the results obtained from the numerical investigation, the applicability of fine-tuned fuzzy controllers, even in the case of partial delamination, is shown.

References

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Kontakt

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