Uncertainty quantification for a model for a magnetostrictive material involving a hysteresis operator

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A model for a magnetostrictive material involving a generalized Prandtl-Ishlinskiĭ-operator was derived in [1]. In this presentation some parameters in this model are supposed to have a fixed value while other parameters are supposed to be uncertain.

Using results of measurements, values for the parameters of the first kind are determined and for those parameters with uncertain values *Uncertainty Quantification (UQ)* is used to determine random densities to describe these parameters and their uncertainties. These results are used do perform forward UQ and the results of forward UQ are compared with measured data. This extends some of the results in [2,3].

References

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