

Kolloquium für Mechanik

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Date: Thursday, July 25, 2019, 15:45h
Location: Building 10.81, HS 62 (R 153)

Title: **Efficient Simulation of Impacts between Reduced Elastic Bodies**

Abstract

Almost all linear model order reduction schemes for mechanical systems achieve static correctness or local precision by adding static mode shapes to the reduction basis. Since this basis is used to project mass and stiffness matrix, these static mode shape develop an entirely unphysical frequency in the reduced system which may cause serious problems if these frequencies are excited. Instead of achieving static correction by using static correction modes, a simple addition to the spectral sum is proposed. This approach has several advantages: The number of degrees of freedom is further reduced, unphysical dynamics are eliminated, the reduction is still statically correct and the numerical efficiency increases considerably. The potential and advantages of the approach will be discussed and demonstrated for numerical test examples.

Alle Interessenten sind herzlich eingeladen.
Prof. Dr.-Ing. Alexander Fidlin