

## Karlsruher PDE-Seminar

# Thermoviscoelastic Transmission Problems: Exponential or Polynomial Stability?

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We investigate transmission problems between a (thermo-)viscoelastic system with Kelvin-Voigt damping, and a purely elastic system. It is shown that neither the elastic damping by Kelvin-Voigt mechanisms nor the dissipative effect of the temperature in one material can assure the exponential stability of the total system when it is coupled through transmission to a purely elastic system. The approach shows the lack of exponential stability using Weyl's theorem on perturbations of the essential spectrum. Instead, strong stability can be shown using the principle of unique continuation. To prove polynomial stability we use an extended version of the Borichev-Tomilov characterization.

**Termin:** Donnerstag, 2. Juli 2015, 17:30 Uhr

**Ort:** Gebäude 20.30 SR 1.067

**Gastgeber:** Die Dozenten des Schwerpunkts Partielle Differentialgleichungen