Internal stability of a network of nonuniform timoshenko beam system

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Abstract

In this talk, we will study the internal stability of a non-uniform Timoshenko beam system on a network. For star-shaped networks, we apply internal feedback on the rotation angle of all edges except one. Under certain assumptions regarding the time-varying physical coefficients, we prove the exponential stability of the system if the wave speeds are equal, and polynomial stability otherwise. The proof is based on the frequency domain method combined with the multiplier approach. We conclude the presentation by generalizing the results to general networks.

This is joint work with **Julie Valein** (Université de Lorraine) and **Mohammad Akil** (Université Polytechnique Hauts-de-France).