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**Title: Luenberger Compensator Theory for Heat-Kelvin-Voigt Structure Interaction via Boundary Feedback Controls**

**Abstract:** An optimal, complete, continuous theory of the Luenberger dynamic compensator (or state estimator or state observer) is obtained for the recently studied class of heat-structure interaction PDE-models, with structure subject to (high) Kelvin-Voigt (visco-elastic) damping, and feedback control exercised either at the interface between the two media or else at the external boundary of the physical domain, in three different settings.

While the general mathematical setting is functional analytic, delicate PDE-energy estimates dictate how to define the interface/boundary feedback in each case.