

# Large-time stability of partially dissipative hyperbolic systems

*lundi 13 avril 2026 16:00 (1 heure)*

In this talk, we consider hyperbolic systems with dissipative effects arising from viscosity or friction. We start by reviewing recent results on the stability of perturbations around constant equilibria. Then, we discuss how the stability analysis changes when passing from constant states to space-periodic traveling waves. In this setting, we introduce a space-averaged Shizuta–Kawashima-type condition and show that it characterizes high-frequency spectral stability for one-dimensional partially diffusive hyperbolic–parabolic systems with space-periodic coefficients. This criterion further enables us to establish nonlinear stability results for sufficiently small initial perturbations.

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