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Exponential Stability for Wave Equations with Indefinite (Non-Dissipative) Damping

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We consider the non-linear wave equation
 $\square u = a(x)u$, where the function a is allowed to change sign, but has to satisfy
 $\int_{\Omega} a(x) dx < 0$. New conditions are presented for this non-dissipative situation with
indefinite damping term, under which the linearized system is
exponentially stable, and the nonlinear system is globally well-posed in
the small.

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