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**Title:** Unilateral problem for the wave equation with spatial-time degenerate nonlinear damping: well-posedness and exponential stability

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**Abstract:** A unilateral problem related to a wave model with a spatial-time degenerate damping on a compact Riemannian manifold is considered. Our results are new and concern two main issues: (a) to establish the well-posedness of the variational problem; (b) to show that the corresponding energy decays exponentially to zero under sharp conditions of zone for the effect of dissipativity. These conditions are used by means of an observability condition related to the sharp zone where the localized damping is acting.