



BOUNDED UNIVERSES: TRAPPED ORBITS AND MODES INSIDE WORMHOLES

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We construct a general class of modified Ellis-Bronnikov wormholes, where one asymptotic Minkowski region is replaced by a bounded 2-sphere core, characterized by asymptotic finite areal radius. We pursue an in-depth analysis of the resulting geometry, outlining that stable circular orbits may arise in the bounded region. We remark that the geodesic completeness is guaranteed also when the radial function asymptotically shrinks to zero. Then, we study the evolution of scalar perturbations, bringing out how these geometric configurations can in principle affect the time-domain profiles of quasinormal modes, pointing out the distinctive features with respect to other black holes or wormholes geometries.