

Wormhole models without symmetries

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ABSTRACT

We present two types of wormholes based on the Robinson–Trautman class of spacetimes generally containing geometries without symmetries. The first one is a global model sourced by a ghost scalar field where we study asymptotics, stability and other issues. The second one is a thin-shell model which approaches a simple spherically symmetric wormhole in the distant future. The generalization of the second model to higher dimensions provides a possibility of avoiding the energy condition violation.