

## Theory: Casimir wormholes with a scalar field

*Thursday, September 7, 2023 2:30 PM (15 minutes)*

We investigate possible manifolds characterizing traversable wormholes under the existence of a scalar field that is minimally coupled to gravity and has a kinetic and a potential energy. The feature of traversability requires the violation of the null energy condition followed by the existence of an exotic matter providing a negative energy density to the system. For this reason, we use a hypothetical Casimir apparatus with walls that are considered either parametrically fixed or radially variable.

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**Session Classification:** Parallel Sessions