

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Uptunneling to de Sitter

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Motivated by the question of how inflation started, we propose a Euclidean preparation of an asymptotically AdS₂ spacetime that contains an inflating dS₂ bubble. The setup can be embedded in a four dimensional theory with a Minkowski vacuum and a false vacuum. AdS₂ times 2-sphere approximate the near horizon geometry of a 4d near-extremal RN wormhole. Likewise, in the false vacuum the near-horizon geometry of a near-extremal black hole is approximately dS₂ times 2-sphere. We interpret the Euclidean solution as describing the decay of an excitation inside the wormhole to a false vacuum bubble. The result is an inflating region inside a non-traversable asymptotically Minkowski wormhole.

Tuesday, March 30, 2021, 2:30 pm

Zoom link will be distributed to joint cosmology seminar mailing list. If not subscribed see <https://cosmos.phy.tufts.edu/mailman/listinfo/cosmology-seminar>

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