

Abstract Submitted
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Light dragging phenomenon and expanding wormholes HRISTU CULETU, Ovidius University — The null geodesic congruence for the Lorentzian version of Hawking's wormhole is studied, in spherical Rindler coordinates. One finds that the wormhole throat, where the stress energy is mostly located, expands exponentially and the flare - out condition is satisfied. The expanding fluid is anisotropic and has a mean pressure that is one third of the energy density, as for a null fluid. A time reversal is equivalent with an inversion applied to the radial coordinate. Far from the throat (the light cone in Cartesian coordinates) the energy density of the fluid no longer depends on the Newton constant G and acquires an expression similar with the Casimir energy density between two perfectly reflecting plates.

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