

Superluminal Data Transfer via Photons through Semi-Stabilized Einstein-Rosen Bridges

George-Kennedy, Alexander

Current methods of data transfer are limited by speed-of-light transmission delays, a problem for interplanetary communications and other applications. The possibility of communication via laser pulses through an unstabilized wormhole may exist. Previous research has suggested that such a method would be impossible due to violations of causality that would arise should a signal be capable of travelling faster than light speed, as well as violations of the averaged null energy condition in the wormhole. With regards to issues of causality, an equation was derived proving that a faster-than-light signal would cause no causality conflicts even with relativistic moving reference frames. The formula shows that the maximum permissible speed of a signal is inversely related to the relative velocities of the two communicating parties, and that this maximum speed approaches c from the right as β approaches c from the left. A wormhole may simulate this speed by lengthening the path a photon must take along its interior, as a function of the relative velocities of its openings. A genetic computer algorithm was written to find the field metric reflecting this, as well as minimizing the requirement for negative enthalpy matter used in stabilization. The program iterates rapidly, striving to create a metric that self-stabilizes: that is to say, negative enthalpy matter arises spontaneously in cavities in desired areas, solving the problem of the averaged null energy condition violations. Program iteration is still ongoing, turning up interesting results so far that warrant analysis and hint at a firm possibility that the sought-after solution does indeed exist.