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Subject: Parallel Universes, Time Travel, Physics, & Meaning of I

Posted by [TheGunrun](#) on Wed, 08 Oct 2003 22:03:15 GMT

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### Cosmic Strings

Yet another theory for how we might travel back and forth through time uses the idea of cosmic strings, proposed by Princeton physicist J. Richard Gott in 1991. These are -- as their name suggests -- string-like objects that some scientists believe were formed in the early universe. These strings may line the entire length of the universe and are under immense pressure -- millions upon millions of tons.

These cosmic strings, which are thinner than an atom, would generate an enormous amount of gravitational pull on any objects that pass near them. Objects attached to a cosmic string could travel at incredible speeds, and because their gravitational force distorts spacetime, they could be used for time travel. By pulling two cosmic strings close together, or one string close to a black hole, it might be possible to warp spacetime enough to create closed time-like curves.

A spacecraft could be turned into a time machine by using the gravity produced by the two cosmic strings, or the string and black hole, to propel itself into the past. To do this, it would loop around the cosmic strings. However, there is still much speculation as to whether these strings exist, and if they do, in what form. Gott himself said that in order to travel back in time even one year, it would take a loop of string that contained half the mass-energy of an entire galaxy. And, as with any time machine, you couldn't go back farther than the point at which the time machine was created.

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