

Superluminal Strings Theory: What ETI May Teach Us

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Suppose that at least one of several galactic civilizations broadcasts intentional signals to signal its own existence. Leakage from that civilization is not taken into account in the following considerations. Then, either 1) they *do* know about humanity, or 2) they don't.

In Case 1, they also know about our stage of technological development, so they may choose to narrow-beam only *aimed information* (i.e., no *Encyclopedia Galactica* stuff). In Case 2, they have not the least idea—or only very vague ideas—about how much science and technology a civilization receiving the signal has developed *on the average*. This case is ruled out here because it seems obvious that they would waste too much energy in broadcasting signals that may not pay off much. Therefore, Case 1 is the appropriate case for all stars encompassed in a sphere centered around the Sun with a radius of about 100 light-years away from the Sun (where our own radio leakage has reached so far).

Let us investigate this “realistic case” now. They know that we know about:

1. Special and general relativity.
2. Quantum physics at the level that it overlaps relativity only in part (Dirac theory).
3. Spaceflight science capable of exploring this solar system only, but not capable of reaching other stars.

They then decide to teach us:

1. The mathematical theory unifying all known forces of nature, a theory of the superstrings type that we shall provisionally name “superluminal strings.”
2. Based on that theory, the technology to master the huge energies connected with the zero-point field.
3. Spaceflight science, “*Star Trek*-like,” enabling us to bend space-time at will and to such an extent that faster-than-light (FTL) phenomena can be achieved and mastered without contrast with general relativity. Wormholes are examples of that, but they are not the only example.

In summary, humanity must then be ready to *decipher* such a message telling us about superluminal strings theory and its technological outreaches. This deciphering task would be best accomplished by “translating computers” working at the highest levels of logic (currently called “theorem proving”). These research fields seem thus to be what deserves the greatest research effort.

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Once superluminal strings theory is mastered, the gradual creation of more and more “wormhole-like alleys of information” around the Sun would revolutionize interstellar communications, making them become fully FTL. Thus, we believe that, in contrast to the FTL spaceflights through wormholes described in the movie *Contact*, reception and transmission of FTL signals, rather than any FTL spaceflight itself, are going to be the keynote of the long-range cultural impact of contact.

