

38th SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The
Next Steps (A4.)
SETI II : SETI and Society (2.)

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RELATIVITY, SETI, AND KNOWLEDGE DIFFUSION ACROSS THE GALAXY

Abstract

In this paper, the special theory of relativity is assumed as a mathematical model to investigate the spread of knowledge among neighbouring communicating civilizations across the Galaxy.

The knowledge propagation speed may be either:

- 1) Equal to the speed of light c , as it is in Special Relativity, if knowledge is transmitted by means of electromagnetic waves, as it is indeed assumed in SETI.
- 2) Equal to the value of spaceship speed if we assume knowledge to be actually spread out by travelling civilizations (Fermi paradox, etc.).
- 3) Even higher than the speed of light c if wormholes exist or else if quantum entanglement phenomena will one day show that a communication speed much higher than c can be physically attained.

Finally, we suggest that a computer code should be written to investigate this "relativistic spread of knowledge" among Humanity and any nearby ET civilization. In particular, we suggest that the list of nearby stars considered by this code should be the same list of 17129 stars that Margaret Turnbull and Jill Tarter described as "Habitable Stars" in their 2003 Habstar Catalogue (web site:

<http://www.nasa.gov/vision/universe/newworlds/HabStars.html>).