

43rd SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The
Next Steps (A4)
SETI 2: SETI and Society (2)

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A POSSIBLE LINK BETWEEN EXTRA-TERRESTRIAL SOCIETIES

Abstract

The methods available to us, at the present time, in our search for extra-terrestrial intelligence limit the societies we can find to those that possess considerable engineering skill. Any society we contact must have the ability to send messages across inter-stellar space, and must be able to process the answering signals that contain our messages. The Finite Fourier Transform and the Fast Fourier Transform Algorithm play a fundamental role in digital signal processing. The efficiency of the algorithm makes lengthy calculations, necessary in many applications, possible. Both the transform and the algorithm are based on the properties of the roots of unity. These remarkable numbers also arise in several areas of pure mathematics, and they have interesting geometric properties. We suggest that these roots may be known to any society that we may, at present, contact and that they might provide a means of exchanging information of mutual interest.