

Title: When Will We Detect the Extraterrestrials?

Author: Seth Shostak

Abstract: It has been more than four decades since the first, modern SETI experiment. Many hundreds of star systems have been observed in the radio over wide bandwidth and with impressive sensitivity, and the entire sky has been surveyed in a more restricted mode several times. New optical SETI experiments have already scrutinized several thousand nearby stars, looking for nanosecond light pulses.

Still, there is no confirmed signal detection. Given the anticipated improvement in both telescopes and digital electronics applied to SETI, what is the time scale for making such a discovery? In this paper we investigate the rate of stellar surveillance by SETI experiments for the foreseeable future, and conclude that it is likely that – if the principal assumptions underlying modern SETI are reasonable – then a detection will occur within a single generation. The implications for research in this field are also considered.