

Abstract Submitted  
for the APR20 Meeting of  
The American Physical Society

**On the Feasibility of Detecting Magnetospheric Radio Emissions From Terrestrial Planets in the Alpha Centauri System.** JOHN BRANDENBURG, Kepler Aerospace LLC — The detection of Jovian-type magnetospheric emissions in nearby star systems has been proposed. [1] It also appears feasible to detect magnetospheric radio emission in the 1-3 MHz region from Terrestrial Planets in the Alpha Centauri System, though this may require space deployment of radio telescopic arrays in Cis-Lunar Space to avoid ionospheric absorption. This, assuming the radio emission power in the MHz range of approximately 30Megawatts, depending on stellar wind conditions. The resultant radio power fluence at Earth from a Terrestrial Planet orbiting one of the stars of the Alpha Centauri system, should be detectable by radio telescope arrays[2]. In particular the terrestrial extrasolar planet Proxima Centauri b would appear to be a primary candidate for such a detection experiment. Detection of a magnetosphere would factor into estimates of the likely-hood of biology on such a planet.[1]Lazio, T. et al. *The Astrophysical Journal, Volume 612, Issue 1, pp. 511-518.* [2] Wolfe, JH; et al. (1979). "CP-2156, Chapter 5.5. SETI – The Search for Extraterrestrial Intelligence: Plans and Rationale"

John Brandenburg  
Kepler Aerospace LLC

Date submitted: 08 Jan 2020

Electronic form version 1.4