

ABSTRACT

With the increasingly advanced times, communication technology throughout the world has also developed, especially in the field of communication, which can even be used for communication from the sun. The rationale for this is to track low frequencies for space weather investigations. By using a spectrometer suitable for listening to low-frequency radio related to space research.

The Callisto spectrometer is a spectrometer suitable for surveying radio spectrum at low frequencies, namely 45 MHz - 870 MHz. In this final project, the design of a log periodic antenna with a frequency of 150 MHz - 900 MHz includes the frequency of the callisto spectrometer.

Log periodic antenna type is the type of antenna that has the widest range at various frequencies and one of the broadband antennas that is suitable for many applications and of course has a high gain making it suitable for solar monitoring. The method in designing this Log periodic antenna is by looking at the antenna gain contour so that it has a high gain for use in a Callisto spectrometer in order to monitor the activity of the sun.

The result of this final project is that in the final simulation process, the antenna boom is 3.36 m long and has 27 elements with the longest element is 0.877 m and the shortest element is 0.055 m. From the final simulation results, the return loss value ≤ 10 dB, $vswr \leq 2$, and the gain from the frequency 150 MHz - 900 MHz is obtained at ≥ 8 dB.

Keywords: *Antenna, LPDA, Radiation, Sun.*