

CALLISTO status report/news letter #43

New Callisto set into operation at Arthur C Clarke Institute, Sri Lanka:

The Arthur C Clarke Institute for Modern Technologies (ACCIMT) is a State Institution for Research & Development and Training. The Institute specializes in the disciplines of Electronics, Telecommunications, Information Technology, Space Technologies and Astronomy. The ACCIMT has the largest observatory facility in the country which houses a GOTO 45 cm Cassegrain optical telescope and supporting equipment of spectrograph, photometers and CCD cameras. With the help of this facility we are actively engaged in research in astronomy and astrophysics as the national focal point in this field. The CALLISTO Solar Radio Observatory is established in the Arthur C Clarke Institute (ACCIMT), Colombo, Sri Lanka. The location of the CALLISTO system is $6^{\circ} 47' 37''$ N, $79^{\circ} 53' 53''$ E at an altitude of 40 m and the time zone is +5.30 from UT. The log-periodic antenna was completely designed by the ACCIMT and constructed locally. Design constant (τ) 0.822 and the relative spacing (σ) 0.149 give 7 dBi theoretical gain for the log – periodic antenna and it covers the frequency range of 45 – 600 MHz with 18 dipoles. The theoretical impedance of the antenna 58.3Ω is well agreed with the impedance measured in the entire frequency range. The total height of the antenna is 5.38 m and the longest dipole is 3.33 m. The linear polarized antenna is pointing to zenith and the dipoles directed to north-south direction. The pre-amplifier is made by ACCIMT using MAR-8ASM Monolithic surface mount amplifier which gives 31.5 dB gain at 100 MHz.

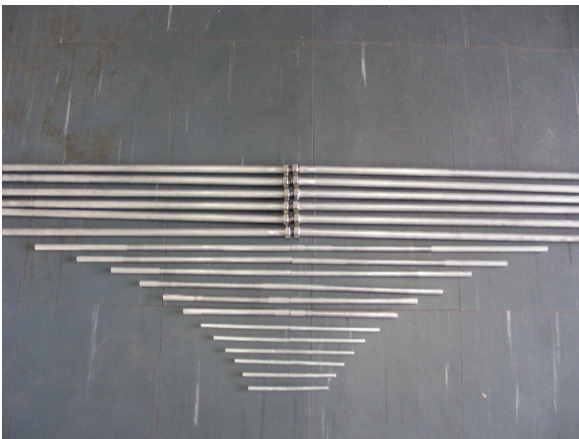


Fig. 1 The 18 dipoles with the diameters of 0.9cm, 1.2cm and 1.5cm.



Fig. 2 Attaching the dipoles to the two booms. The two booms separate by 33mm using Perspex sheets.



Fig. 3 The members of astronomy division. From left; Saraj Gunasekara, Janaka Adassuriya, Kamal Perera, Indika Medagangoda.



Fig. 4 Log – Periodic a Antenna

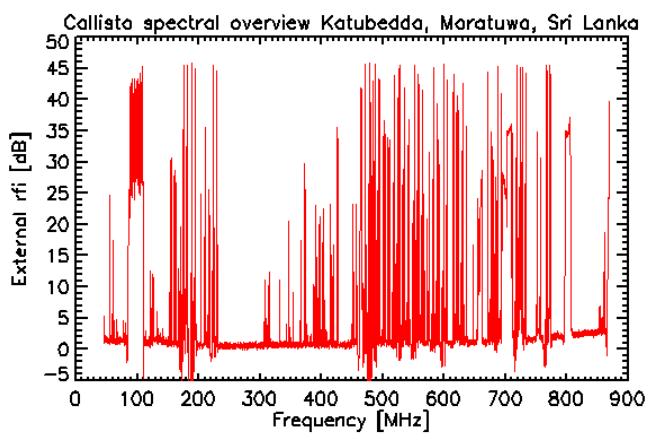
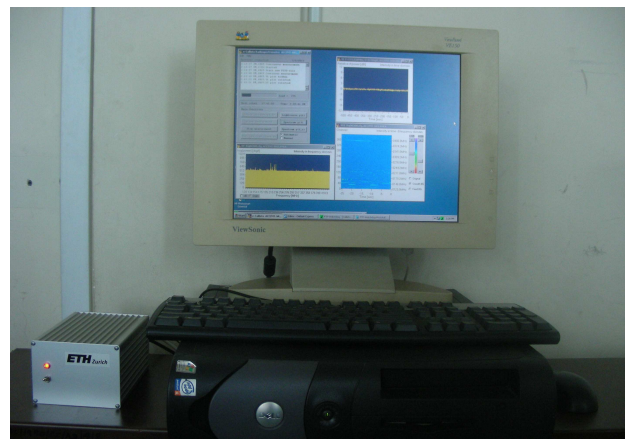


Fig. 5 Spectral overview of the CALLISTO system at Arthur C Clarke Institute, Sri Lanka



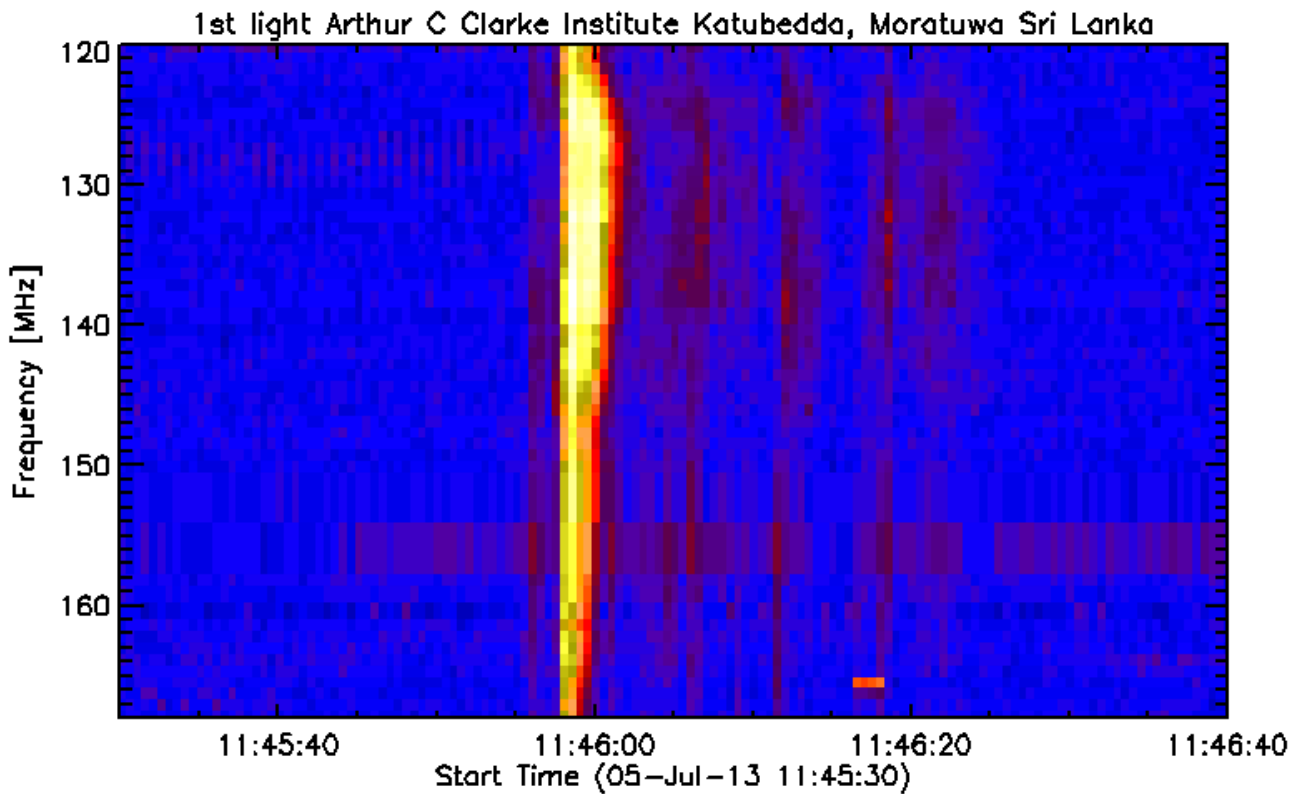


Fig. 6: 1st light of Callisto in Sri Lanka, a type III burst. X.axis time stamp denotes to Sri Lanka local time. In the mean time the system is correctly working in UT.

Welcome on board of the e-Callisto network

General information and data access here: <http://e-callisto.org/>

AOB:

CALLISTO or Callisto denotes to the spectrometer itself while e-Callisto denotes to the worldwide network.

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