

NEWSLETTER – APRIL 2011

Following talks with Prof Girish Beeharry from the University of Mauritius we have embarked on a joint radio astronomy project. The Multi-frequency Interferometry Telescope for Radio Astronomy (MITRA) project will be based at the University of Mauritius with a remote station at the DUT. It is hoped that the other African partner countries that make up the Southern African SKA bid, can be included into the project. These countries are Namibia, Botswana, Ghana, Madagascar, Mozambique, Kenya and Zambia.

The MITRA project will cover the frequency band of 100-900 MHz and will use arrays of dual polarised log periodic dipole antennae. Construction of the antennae has already begun with **Figure 1** showing the first completed antenna in Mauritius.



Figure 1

One of our Master's degree students, Dave Callaghan, is working on the Digital Signal Processing (DSP) requirements for the project. He will be using the Xilinx Virtex5 evaluation boards for this. Dave will be attending a DSP primer workshop in Prague in May 2011. The aim of the workshop is to get instructors started with using the latest Xilinx FPGA development hardware and software and the use of Matlab and Simulink with the Xilinx ISE FPGA development software.

Peter Howells, working on the cooling system for the Indlebe Radio Telescope LNA, has completed the prototype hardware for the control system. He is currently writing the control algorithms in software.

Progress is also being made on **INDLEBE ENKULU**, the new radio telescope with a diameter of 7,3 m sited at Monteseel, approximately 40 km west of Durban. The design is complete along with many of the subsystems. Contracts for the manufacture of the major steel and aluminium components will be awarded soon. This project is being undertaken by John Fielding. When this telescope is operational it will be linked with the existing Indlebe radio telescope to form a two-element interferometer.

There will be a lunar eclipse occurring in our part of the world on 15 June, at around 22:00 this year. I include **Figure 2** below (courtesy of Wikipedia) to show exactly what will be happening.

If you have any comments or questions please feel free to contact me by return email. Should you wish to be removed from the mailing list, please send me an email with the words 'remove me'. Please feel free to pass this newsletter on to any colleagues not receiving it.

Gary J van Vuuren

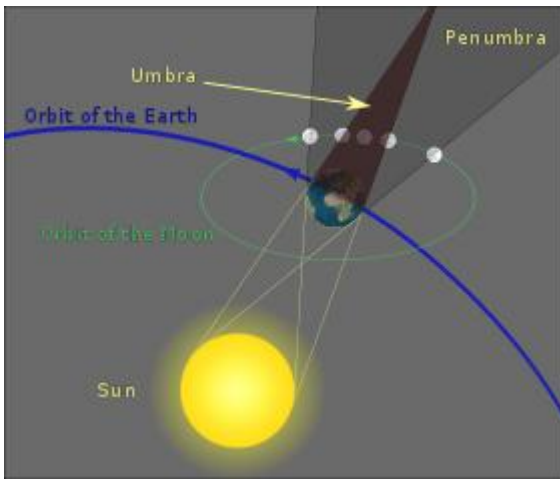


Figure 2