

IAF SYMPOSIUM ON FUTURE SPACE ASTRONOMY AND SOLAR-SYSTEM SCIENCE MISSIONS
(A7)

Space Agency Strategies and Plans (1)

Author: Ms. Carla Sharpe
SKA South Africa, South Africa

THE AFRICA2MOON PROGRAMME

Abstract

The Africa2Moon Mission has been conceived to inspire Africa, through an African moon mission and first time science; showing the people of Africa that they can believe in the unbelievable and reach for the Moon.

The primary objectives are:

- To demonstrate that collaboration can overcome any challenge
- To provide a series of public participation and scientific missions, over a multi-year period, culminating in the deployment of 54 RADS or 'Moon Balls' on the far side of the Moon
- To deploy and operate a radio astronomy array on the far side of the Moon, with each of the 54 'Moon balls' representing a nation in Africa
- To perform first time science in radio astronomy, in the 1 – 10 MHz frequency range including mapping the Sun in this frequency range

Each RADS instrument is a self inflating plastic ball or 'Moon Ball' (Up to 2U flat packed) A loop antenna is deployed in the surface of the ball, sewn into the surface of the plastic ball. The capacitor, battery and transmitter are located inside the ball

Current milestone study areas that are underway include the Materials study for plastic ball structure, RADS Inflation mechanism, Power options due to 14 day cycles on the far side of the Moon, and non destructive moon landing options.

The mission will transmit data along the journey, and then from the surface of the Moon via small satellites in lunar orbit. This data will be relayed back to Earth for interactive participation in academia, science centres and classrooms across Africa.

This programme is currently a collaboration between institutions, academia, individuals, government organisations and now international partners. Through these relationships we are looking to deploy a proof of concept 'Moon Ball' on the near side of the moon by the end of 2020.