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Low Frequency Radioastronomy at Moon: possible approach and architecture

A. Skalsky, M. Mogilevsky, V. Nazarov, R. Nazirov, O. Batanov, and A. Sadovski
Space Research Institute, Plasma Physics, Moscow, Russian Federation (skalsky@iki.rssi.ru)

The Moon, the Earth's neighbor, attracts an attention as a celestial body, as a source for mineral and other resources and as a possible base for fundamental scientific researches. The conducting ionosphere of Earth completely shields radioemissions coming from outer space and propagating at frequencies below a few MHz. In contrary, the Moon possessing a week atmospherearound its surface seems to be a perfect base for carrying out measurements of low frequency radio emissions originated from the space. The radio facility deployed at Moon's surface seems to be a powerful tool for various fundamental space researches related to astrophysics, solar system and magnetospheric investigations. The most intriguing objective is a search of terrestrial-like planets in the exosolar system, i.e. planets possessing the intrinsic magnetic fields and developed magnetospheres which interaction with the star wind results in generation of radioemissions (similar to AKR radiation of the terrestrial magnetosphere).
Creating the infrastructure of antennas (sensors) on Moon's surface is planned for reaching the described goals. Ideology of such infrastructure (which may be treated as macro-instrument) is closely to SensorWeb approach. The different sensors are collected to unified platforms (PODs in terms of SensorWeb) which provide omni-and bidirectional information flows between PODs.
Thus a set of sensors is integrated self-organizing amorphous organism on the base of wireless network. It increases reliability of the research complex and allows quick reconfiguring and adopting it for different investigation tasks. For additional redundancy and openness of the complex at least some PODs will support not only inter-PODs protocol but IEEE 802.16 Wireless LAN standard used in NASA Lunar Communication and Navigation Architecture also.
The paper presents a possible approach to the development of the radio facility deployed at Moon's surface, its implementation for various fundamental researches