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Lunar Missions as Objects and Subjects of Radio Astronomy

L.I. Gurvits (1)

1. Joint Institute for VLBI in Europe, Dwingeloo, The Netherlands

(lgurvits@jive.nl)

Radio astronomy and exploration of space share a lot in common, not the least their significant impact on science-driven technology developments. Major steps in radio astronomy and space exploration developments are remarkably synchronous and, in fact, interrelated in many cases. Exploration of the Moon is one of many examples of mutually beneficial interaction between radio astronomy and space activities. Lunar mission spacecraft are targets of radio astronomy observations aimed at providing extremely accurate estimates of spacecraft state vector. This technique has been demonstrated recently with the ESA Smart-1 mission and will be widely employed for the upcoming Lunar missions Selene (Japan) and Chang'E-1 (China). Prospects of broad exploration activities on the Moon in the coming decades have returned into the spotlight a number of proposals to consider a Moon base as a site for radio astronomy facilities. In this presentations both common topics of radio astronomy and Lunar exploration will be addressed with an emphasis on various synergies with other drives behind growing interest to the exploration of the Moon.