

Lunar Exploration (2)  
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## LUNAR NAVIGATION USING A SMALL SATELLITE NETWORK

### **Abstract**

A sustainable network of satellite with lower design lifetime and launch cost can be deployed above the lunar surface. Before establishing a permanent settlement on the Lunar surface an appropriate mapping and navigation technique for Moon is necessary to develop. This paper proposes a swarm of small satellites above the Lunar surface. This will continuously provide the position accuracy of the landing module and the accuracy for the vehicles across the Lunar surface in near future. A network of small satellites 'ChipSat' is proposed for this purpose.'ChipSat' is a satellite with lower mass and lesser design complexity. The swarm of ChipSat into the Lunar orbits can provide a cost effective stable navigation satellite network due to the absence of atmospheric drag. The control segment can be established on the Lunar surface while the necessary information can be shared with Earth using another communication network of 'ChipSat'.