

SPACE EXPLORATION SYMPOSIUM (A3)
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Author: Mr. Kartik Shah
University of Petroleum and Energy Studies, India, kshah41976@gmail.com

TERRAFORMING MOON USING A SWARM OF ROVERS

Abstract

There are many robotic rovers on the Moon currently present, like the Lunokhod rovers, the moon buggies etc. and also more than 18 countries are planning to land rovers on the moon in order to win the Google Lunar X prize. Indian Space Research Organisation (ISRO) is working on Chandrayaan-2 mission which consists of an orbiter and a landing rover vehicle that will be deployed on the surface of Moon. Now in order to transform the moon into a habitable place, all the parameters need to be studied and worked upon like, setting up the area, food supply, employment, healthy surrounding etc. Multiple rovers are present on Moon and this can be used as an advantage not only for exploration, but also they can come and work as a team in order for performing task like building up bunkers where humans can stay, create a landing pad where the lunar vehicles will land or take off, extraction of minerals etc. In all, all the things that humans would have done if it was possible for them to go there. A grid-like network will be created where each rover will be assigned a task and will be monitored from the ground station. This will help in using all the rovers present there, as the only things on the moon are the rovers and they can act as human hands and can help in developing colonies. There are rovers on Moon, who are of no use, either their battery is dead or any other reason, so these will also act as maintenance rovers in order for repairing of that rover vehicle so that it could be used. So all the rovers that are going to go to the moon can be fitted with a guidance software and navigation system that will allow the rovers to communicate with themselves in order for working out a task. These work like remote computers which can exchange information from one another using servers setup.