



Lunar Dust Effects on Lunar Rover Exploration

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At the second stage of China's lunar exploration project (Chang'e 2), a rover will be sent to the moon to explore at the lunar surface. In order to accomplish the lunar exploration task, the rover must be designed to adapt the harsh environments of the moon.

During the Apollo Missions that landed on the lunar surface, one unexpected phenomenon was how troublesome the lunar dust turned out to be. Due to its adverse effect to the lunar exploration and is hard to eliminate, the lunar dust is concerned as the number one problem in returning to the moon.

Lunar dust problems is summarized here, including the electrostatic properties of lunar dust, the effects of lunar dust to the Apollo missions, the research development of the lunar dust simulation and mitigation, and so on. Based on this narration, the potential hazards of lunar dust to China's lunar exploration project are analyzed. China's lunar exploration project is different from the Apollo mission in many ways, such as it is unmanned exploration, and the rover velocity is far lower than that of the Apollo vehicle, so the dust effect must be evaluated properly. Advices of the rover and lander designing, and the working procedure right after landing are given.

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