

Lunar Exploration (3)
Lunar Technologies (2B)

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TELEOPERATION SYSTEM CONSTRUCTION FOR CONTROLLING THE PLANETS-SAMPLING TELEROBOT WITH TACTILE AND VISUAL TELEPRESENCE CAPABILITIES

Abstract

Abstract: To meet the needs of accuracy and real time of teleoperation for planet-sampling, and deal with situations when interplanetary transferring or planet working environment of the robot changed or relative warp between the target and the end effector of the robot. A new operation system for controlling the planet-sampling telerobot with tactile and visual telepresence capabilities was proposed in the paper. The visual telepresence was reproduced in the form of video and 3D virtual scene, the haptic telepresence is achieved by the tactile signal which was produced and processed when assembly of robot is running and touching object. The system will combine the haptic and visual telepresence, and on this basis to help operator accurately complete the teleoperation tasks.