

*Special Issue on
AI, Robotics and Automation in Space*

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In the 2020's, several missions to explore deep space such as the moon, Mars, asteroids, and comets are being planned for scientific observation and human activities. Recently, many researchers have studied and developed lunar or planetary robots for surface exploration. International cooperative missions are also under discussion including human lunar exploration. Space robotics including AI is a key technology for planetary exploration as well as orbit service. Space robotics is expected to support space activities, such as external vehicular activities (EVA) and internal vehicular activities (IVA) for future space utilization. Future space projects will require space AI and robotics technology to construct, repair and maintain satellites and space structures in orbit. For this upcoming special issue, we are inviting our readers to submit papers on advanced space robotics including AI, Robotics and Automation in space. The interest topics of the special issue include, but are not limited to

- Artificial intelligence in space : autonomous location, navigation and map-building, SLAM technology, fault detection, isolation and recovery methods, image processing, object identification and feature detection, task planning and scheduling
- Robotics in space : mechanical design of planetary rovers, mechanical design of space manipulators, actuators and sensors of space robots, end-effector/tools of space robots, re-configurable robots, robot mobility.
- Automation in space : simulation technology, testing methods, remote operations, human-machine interaction, interaction with the space environment, data mining and analyzing.

Submission: The full-length manuscript (either PDF file or MS word file) should be sent by **January 31, 2021** to the office of Advanced Robotics, the Robotics Society of Japan through the on-line submission system of the journal (<https://www.rsj.or.jp/pub/ar/submission.html>). Sample manuscript templates and detailed instructions for authors are available at the website of the journal.