
***ADVANCED ROBOTICS* Call for Papers**

Special Issue on Advanced Space Robotics

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Long-term stay by astronauts and various kinds of activities are performed in the International Space Station. Several missions to explore deep space such as the Moon, Mars, asteroids, and comets are being planned and performed for scientific observation. A lunar outpost and human exploration on the Moon are also under study by NASA to take place around 2020. Additionally, international collaboration is being considered.

Space robotics, including AI, is a key technology for planetary exploration. Space robotics also supports space activities, such as external vehicular activities (EVA) and internal vehicular activities (IVA), for future space utilization. Robotics technology is required to construct, repair, and maintain satellites and space structures in orbit.

This special issue will introduce state of the art in-space robotic systems, their theory and practice. The focus is on advanced research activities and updated mission results. Papers on all aspects of artificial intelligence, robotics and automation in space are welcome, including, but not limited to the following topics:

- ◆ spacecraft autonomy, navigation and guidance, smart sensors, landing, etc.
- ◆ mission operations automation, planning and scheduling, fault protection etc.
- ◆ space base assembly, satellite inspection and servicing, formation flight, etc.
- ◆ science data analysis, testing and validation, software architectures, etc.
- ◆ mobility, manipulation, construction, excavation, sampling, etc.
- ◆ localization, navigation, path planning, sensing and control
- ◆ human-robotic systems, interface, operations, and tele-science
- ◆ field tests, mission results, and lessons learned

Submission: **Pdf format file** of the complete manuscript should be sent by February 28, 2009 to the office of Advanced Robotics, the Robotics Society of Japan through our homepage (www.advanced-robotics.org). Sample form of the manuscript is available at the homepage, too. Additionally, please send the same file to Prof. Takashi Kubota (kubota@isas.jaxa.jp) for the confirmation.