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Collana	GeoPlanet: Earth and Planetary Sciences, , 2190-5193
Disciplina	629.47
Soggetti	Remote sensing Aerospace engineering Astronautics Automatic control Robotics Mechatronics Remote Sensing/Photogrammetry Aerospace Technology and Astronautics Control, Robotics, Mechatronics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Robots for space exploration – barriers, perspectives and implementations -- On the Simple Adaptive Control of Flexible-Joint Space Manipulators with Uncertainties -- Hybrid method of motion planning for driftless systems -- The Formation Flying Navigation System for Proba 3 -- Innovative Resistojet Propulsion System – use in Robotic Space Platforms -- Analyses of a free-floating manipulator control scheme based on the fixed-base Jacobian with spacecraft velocity feedback -- TwinCube – preliminary study of a tether experiment for CubeSat mission -- Novel type of inertial actuator for satellite Attitude Control System basis on concept of reaction sphere – ELSA project -- Deployable manipulator technology with application for UAVs -- MERTIS/BEPI COLOMBO Pointing Unit Mechanism – Pointing Accuracy Test Procedure, Setup and Results -- Design of the new Pi of the Sky robotic telescope controlled via internet -- Satellite guided navigation control for environment monitoring -- ABM SE analog Mars

rover service as a robotic hardware and team building platform -- Manipulators of the Phobos-Grunt project and Lunar projects -- On a hybrid genetic algorithm solving a global path planning for a ground mobile robot -- Outline of an autonomy framework for space mobile robots.

Sommario/riassunto

This book presents a selection of conference contributions from CARO' 13 (Conference on Aerospace Robotics), which was held in Warsaw from July 1 to 3, 2013. It presents the most important and crucial problems of space automation in context of future exploration programs. These programs could involve such issues as space situational awareness program, planetary protection, exploitation of minerals, assembly, manufacturing, and search for new habitable location for next human generations. The future exploration of Space and related activities will involve robots. In particular, new autonomous robots need to be developed with high degree of intelligence. Such robots would make space exploration possible but also they would make space automation an important factor in variety of activities related to Space.
