Xiu-Tian Yan, Int J Robot Res Appl Autom. 2019
DOI: dx.doi.org/10.18689/IJRA2019.a1.002

madridge CONFERENCES

International Conference on

ROBOTICS AND AUTOMATION ENGINEERING

October 23-24, 2019 | Rome, Italy

Mosar a European Space Robotic Technology for Sustainable Space Access

Xiu-Tian Yan[1]*, Pierre Letier[2]
University of Strathclyde, Belgium

Europe has embarked on a strategic research effort in developing a suite of space robotics technologies for future space missions both for planetary explorations and in on-obit servicing. This has been and is being investigated through a structured mechanism called strategic research cluster (SRC) in Space Robotics Technologies. The first group of projects in the form of operational grants have completed and they have developed five common building blocks for these future missions.

The second group of the projects have recently started to develop demonstrations for both planetary and in-orbit applications. MOSAR is one such a project focusing on the use of space robotic connectors to assemble, configure satellites in space. Specifically, MOSAR project aims to create a new paradigm technology to address an increasing challenge of developing a sustainable space approach to enable more affordable access to space for all stakeholders. This invited talk provides an overview of two of the five common building blocks and then MOSAR technology's preliminary development to enable on-orbit servicing.

MOSAR is built on five successful projects which collectively created all required common building blocks for both planetary explorations and in-orbit missions, a novel architecture is proposed to create a walking manipulator to demonstrate its unique capability in both space system assembly and on-orbit servicing.

Biography

Xiu-Tian Yan is a Professor in Mechatronic Systems Technology and the Director of Space Mechatronic Systems Technology Laboratory (SMeSTech), of the University of Strathclyde. He is a Fellow of Institution of Engineering and Technology and a Fellow of IMechE. He is a Technical Editor of IEEE/ASME Transactions on Mechatronics.

Prof. Yan's research interests include mechatronic systems design, robotics, computer support mechatronic systems design, modelling and simulation, and modular design. He has published over 240 technical papers in major international journals and conferences and edited or wrote 6 books in the fields.

Notes: