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REX-J, Robot EXperiment on ISS/JEM to demonstrate an astronaut support robot

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With the expansion of space activities, a large space facilities is now being constructed in space, has become its assembly, is required of astronaut extravehicular activity maintenance. Extravehicular activity of astronauts to radiation exposure, there is a risk of life-threatening such as micro-debris collision, however astronaut.

Therefore, we are conducting research on robot support of astronaut extravehicular activity, an alternative, which is planned at the International Space Station (ISS) and experimented.

Experiment has been called REX-J will be transported to the ISS / JEM in the machine to supply the space station in July 2007.

REX-J is different from various robots on the ground robots and space so far, pulled out (with the hook mechanism at the tip) that can be stretched tether from the robot also by a robotic arm that can stretch from the robot, in the space station, space flight attaching a tether hook the tip of the hand rail has been established for extravehicular activity when the chassis. Then, the robot is to navigate to the location intended by winding the tether. This mechanism is simple robot, the robot has a normal feature easily can have a redundant system more difficult to realize.

Keywords: space robot, astronaut support robot, REX-J