

Method and Associated Apparatus for Capturing, Servicing and De-Orbiting Earth Satellites Using Robotics

Case Number: GSC- 15002-2
Patent Number: 7,513,459
Patent Exp. Date: 5/6/2025

DESCRIPTION

This invention is a Free-flying spacecraft, or a global positioning system satellite. The method involves autonomously identifying a spacecraft, and autonomously pursuing the spacecraft with another spacecraft. The former spacecraft is secured to the latter spacecraft using an attachment device, where device has a robotic grappling arm. The former spacecraft is identified by the latter spacecraft by comparing file images of the former spacecraft with real time images of the former spacecraft collected by the latter spacecraft. The latter spacecraft is launched into space and a communications link is established between the latter spacecraft and a remote operator.

FEATURES AND BENEFITS

- The method permits to autonomously service the Hubble space telescope and other free-flying satellites during flight using robotics in an efficient and reliable manner.

APPLICATIONS

- Robotics
- Communications
- Weather
- Earth Remote Sensing
- Defense

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-15002-2, please contact:

Darryl Mitchell
Technology Manager
NASA Goddard Space Flight Center
Innovative Partnerships Program Office
darryl.r.mitchell@nasa.gov
301-286-5169