66th International Astronautical Congress 2015

48th SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)
Cyber-security threats to space missions and countermeasures to address them (4)

Author: Mr. Travis Cottom
United States, tcottom@gwmail.gwu.edu

THE CYBER THREAT TO SPACE SYSTEMS

Abstract

Space systems are vital to both civilian and defense sectors, but they are vulnerable to various types of attack which can limit their use or completely destroy them. One new method that has not been completely explored is using cyber as a means of attacking space systems. Space and cyber are becoming increasingly reliant on each other whether it is from accessing the internet through communication satellites in remote areas or controlling UAV's continents away. While space and cyber are intertwined with each other, there are significant challenges because of the threat of cyber attacks against space systems. To understand the cyber threat to satellites this paper will examine the interdependence between cyber and space, the cyber vulnerabilities facing both civil and national security space systems, the consequences if an attack were to occur, and how all civilian, defense, and commercial companies can improve their space system operations to help prevent cyber attacks.