Paper ID: 89943
student

57th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE ACTIVITIES (D5)
Cybersecurity in space systems, risks and countermeasures (4)

Author: Mr. Frank Raul Quintana Quispe
Peru

Mr. Juan Rodolfo Alvarez Huarhua
Peru
Prof. Avid Roman-Gonzalez
Universidad Nacional de Moquegua, Peru

PROPOSAL OF CYBER INCIDENT RESPONSE STRATEGIES IN SPACE NETWORKS FOR SECURITY ENHANCEMENT

Abstract

Space networks are essential for astronautical operations, facilitating communication and navigation in space. However, they face an increasing threat of cyber-attacks that could disrupt critical functions and compromise security. In response to this challenge, a comprehensive approach to managing cyber incident in these networks is proposed. This strategic framework proposal covers four key areas: detection, analysis, response, and recovery. Detection is achieved through advanced intrusion detection systems and traffic analysis, while forensic analysis provides a deep understanding of incidents. Rapid and predefined response allows for containment and mitigation of attacks, while recovery measures ensure swift and efficient restoration of normal operations. These strategies are expected to reduce detection and response time, minimize the impact of attacks, and enhance the overall security of space networks. These initiatives are crucial to ensuring resilience and success of astronautical operations in the future. In an environment where technological innovation is rapidly advancing, the effective implementation proposal of these strategies is fundamental to maintaining integrity and trust in space networks critical for global astronavigation.