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Cyber-based security threats to space missions: establishing the legal, institutional and collaborative framework to counteract them (2)

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CYBERSECURITY MEASURES IN MODERN SPACE EXPLORATION AND AZERBAIJAN'S ROLE

Abstract

Cyber-Physical Convergence: The abstract explores the seamless integration of digital and physical systems in spacecraft, elucidating how a cyber threat can manifest as tangible physical consequences, such as altering satellite trajectories. It underscores the policy implications and the imperative of international cooperation. Azerbaijan's role in shaping norms and standards is pivotal for securing its space operations.

Strategies for Protection: The analysis advocates key strategies for safeguarding space assets, encompassing encryption, advanced threat detection, redundancies, system audits, and international collaboration. The abstract accentuates the role of private companies, including those in Azerbaijan, in shaping space cybersecurity. This collaborative approach is essential for the collective security of space assets. Conclusion: Looking ahead, the abstract anticipates the increasing importance of international collaboration, the role of private companies, and the challenges and opportunities in the next decade. It emphasizes the need for human-in-the-loop security measures and the significance of security awareness and training. Azerbaijan's proactive adaptation to technological advances is crucial for ensuring the safety, security, and success of its burgeoning space exploration initiatives.

References: The abstract draws insights from reputable sources, including the Center for Strategic and International Studies (CSIS), the National Academies of Sciences, Engineering, and Medicine, and NASA, providing a comprehensive overview of cybersecurity measures in modern space exploration.