

National Aeronautics and
Space Administration



EXPLORE SCIENCE

Cybersecurity/Encryption

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A vibrant space-themed background featuring a large blue circle on the left containing a detailed view of the Earth's horizon. To the right, a dark blue circular area contains white text. The background is filled with a colorful nebula in shades of blue and green, a bright yellow sun, and several planets, including Saturn with its rings, Mars, and the Moon. The overall aesthetic is futuristic and scientific.

A little about me

Ph.D. in Information Security

LCDR in the US Navy Reserve / Information Warfare

DoD/Intel

Semi-retired Professor

New to NASA

The background of the slide is a vibrant space scene. It features a large, dark blue planet in the foreground, a bright yellow sun in the lower left, and various other celestial bodies including a ringed planet and a reddish planet. The background is filled with stars and a blue nebula. The slide is framed by a dark blue circular border on the left and bottom.

Information Security at SMD

Guiding Principle: “We are in the business of science”

Major Areas of Effort for Small Sat Projects:

- Project Protection Plan (PPP)
- Authorization To Operate (ATO)
- Common Mission Infrastructure

A vibrant space-themed background featuring a large blue circle on the left containing a yellow sun, a blue planet, a ringed planet, and a brown planet. The rest of the background is a dark blue space with stars and a nebula.

Small Satellite Cybersecurity

Do we need cybersecurity on small satellites?

If so, what kind of cybersecurity?
Encryption?

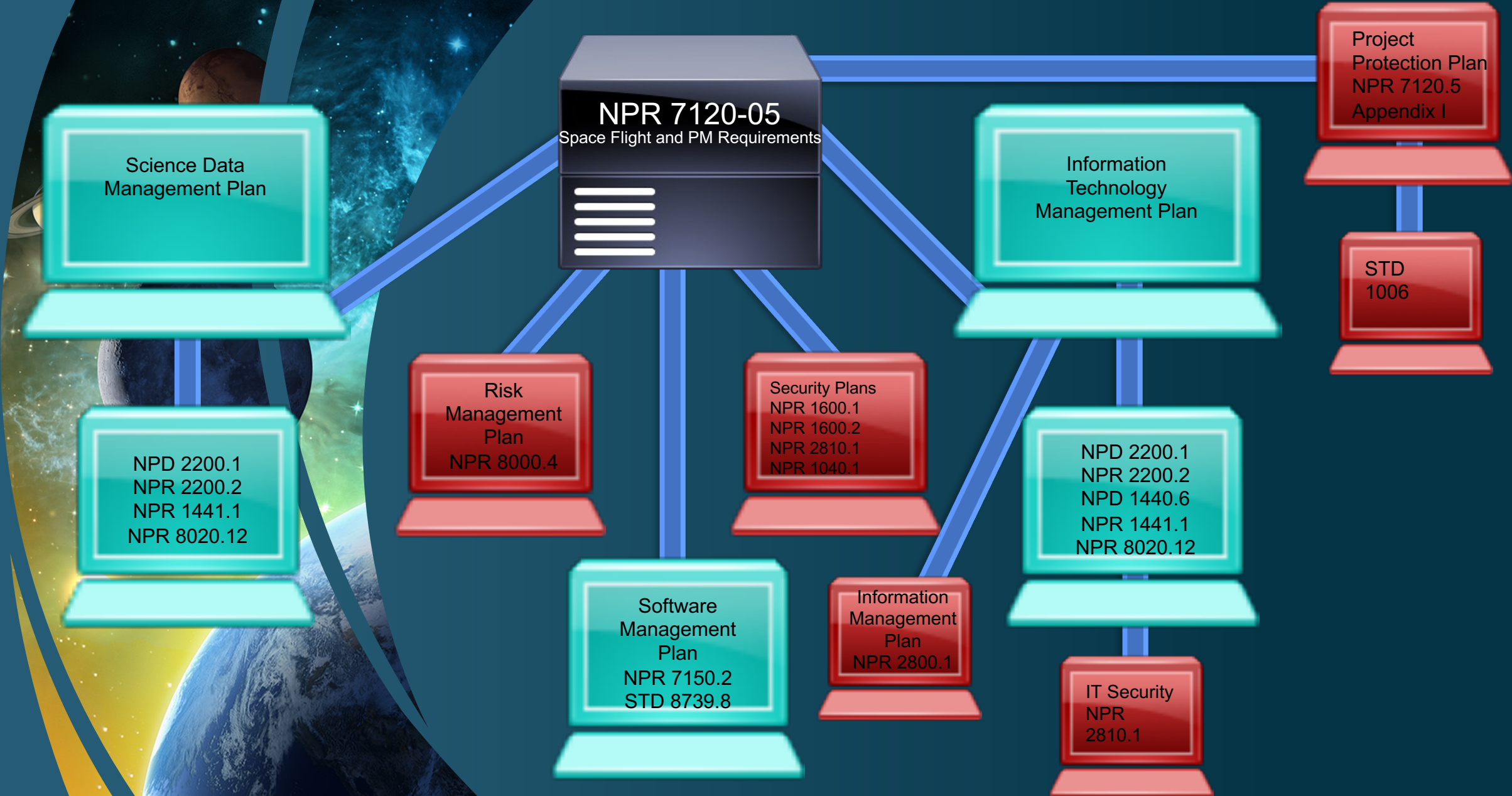
[https://youtu.be/qwC7Kgj87T0?
si=rVS-M-43FJwC39AZ](https://youtu.be/qwC7Kgj87T0?si=rVS-M-43FJwC39AZ)

A vibrant space-themed background featuring a large blue sphere (resembling the Moon) in the center, a bright yellow sun in the lower left, and various other celestial bodies like Saturn and Mars. The scene is set against a backdrop of colorful nebulae and stars. A large, semi-transparent blue circle is overlaid on the right side of the image, containing the text.

Small Satellite Cybersecurity

Compliance vs Risk Paradigm

SMD Information Security Policy Applicability Listing



NPR 7120-05
Space Flight and PM Requirements

Science Data Management Plan

Information Technology Management Plan

Project Protection Plan
NPR 7120.5
Appendix I

NPD 2200.1
NPR 2200.2
NPR 1441.1
NPR 8020.12

Risk Management Plan
NPR 8000.4

Security Plans
NPR 1600.1
NPR 1600.2
NPR 2810.1
NPR 1040.1

Software Management Plan
NPR 7150.2
STD 8739.8

Information Management Plan
NPR 2800.1

NPD 2200.1
NPR 2200.2
NPD 1440.6
NPR 1441.1
NPR 8020.12

STD 1006

IT Security
NPR 2810.1

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Small Satellite Cybersecurity Way Forward

Work at NASA specific to small
satellite security processes:

Tailored/Template System

Risk Based System



EXPLORE
together