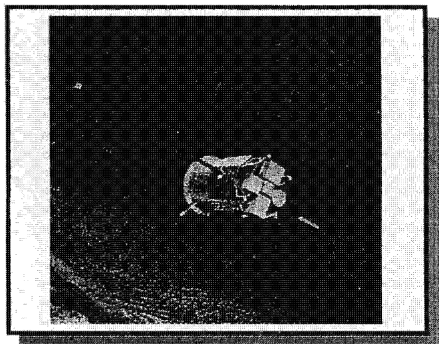


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# Technology for Autonomous Operational Survivability (TAOS)



**• Status**

- Operational / Mar 94
- Design Life: 18 months
- Mean Mission Duration: 12 months

**• RF Coverage**

- Band 1: 150 - 165 MHz
- Band 2: 380 - 430 MHz
- Band 3: 520 - 570 MHz
- Band 4: 720 - 800 MHz
- Band 5: 850 - 1050 MHz
- Band 6: 1050 - 2000 MHz
- Band 7: 2000 - 2250 MHz
- Band 8: 2670 - 3010 MHz
- Band 9: 3600 - 4200 MHz

**• NRO Objectives**

- Exploit [redacted] Sensor Capability, Collect Foreign Space Surveillance Tracking Operations
- Assess Foreign Space Operations, Procedures, and Concepts
- "Map" [redacted]

25X1

25X1

**• Phillips Lab Experiments:**

- Reduce Dependence on [redacted]
  - » [redacted]
  - » [redacted]
  - » Autonomous Navigation
  - » Advanced On - Board Processing

25X1

25X1

**• 8 - 10 Minute Area View Time Per Pass in Primary Area**

**• Payloads**

- [redacted] Capability
- 2 Autonomous Navigation Systems

25X1

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POINT PAPER  
ON  
TECHNOLOGY FOR AUTONOMOUS OPERATIONAL SURVIVABILITY (TAOS)

o Background

- Phillips Laboratory experiment launched Mar 94, completed Jun 95
  - autonomous navigation
  - [REDACTED]
  - exercise and refine US Space Command space control tactics
- Used exclusively by intelligence community since Jun 95
  - NRO/SI-12 paying all O&M bills; [REDACTED]
  - AFSPC/50SW performing satellite command and control functions at Falcon
  - GTE performing radar data processing, analysis, and reporting

o Current Mission: Assess foreign space surveillance tactics, ops status, and threat

- Users and missions
  - [REDACTED] 25X1
  - NSA/W9W - space and weapons systems capabilities and vulnerabilities
  - National Air Intelligence Center
    - space surveillance; early warning radars
    - air and space based ASAT and directed energy weapons
  - Missile System Intelligence Center
    - ABM; battle management radars
    - ground based ASAT and directed energy weapons

o Unique Contribution to Overhead SIGINT

- Frequency
  - only uninterrupted space surveillance and BMEW radar LEO collector
  - [REDACTED]
  - only Moscow ABM battle management radar LEO collector
- Geometry
  - half of mainbeam collection constellation
  - only Pechora high elevation fence collector
- Uninterrupted, mainbeam collects help diasnose radar search/track methodology
  - Phillips Lab cover still in place; not reported in Russian Warning Program

o Vehicle Health: Several single point failures, but no signs of imminent failure

[REDACTED] /30 Apr 96

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