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EXTREME ULTRAVIOLET EXPLORER (EUVE)

NC999967

(Emergency Support)

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LV/Range: Delta/ETR

Launch Date: January 18, 1992

Projected SC Life/DSN Support: 24 months/13 months

Project Responsibility: Goddard Space Flight Center (GSFC)

Source: SIRD Draft

Sponsor: NASA

A. MISSION DESCRIPTION

The Extreme Ultraviolet Explorer (EUVE) will conduct a survey of the entire celestial sphere in the extreme ultraviolet (UV) spectrum, 100 to 1000 angstrom units. This survey will be accomplished using four grazing incidence telescopes mounted on a spinning spacecraft whose spin axis is along the Sun line. The axes of three telescopes sweep out a circle perpendicular to the Sun line for each revolution of the spacecraft. The fourth telescope points in the anti-solar direction. Data is taken only when the spacecraft is in the Earth's shadow.

B. FLIGHT PROFILE

The EUVE will be placed into a near-circular orbit by a Delta expendable launch vehicle.

The design orbit is circular at an altitude of 550 km by 28.5 degrees for a period of 96 minutes.

The EUVE will be flown on a standardized Explorer Platform (EP) which will be reused for followup explorer missions. The EP is a new Multimission Spacecraft (MMS).

C. COVERAGE

1. Coverage Goals

Coverage will be provided by the DSN for EUVE emergencies that would prevent communications via the normal channels of the Tracking and Data Relay Satellite System (TDRSS). Emergency support will be provided by the 26-meter subnet.

2. Network Support

The support provided by the DSN is indicated in the following table:

<u>System</u>	<u>Goldstone</u>				<u>Canberra</u>				<u>Madrid</u>		
	12	14	15	16	42	43	45	46	61	63	66
S-band TLM			E				E				E
S-band CMD			E				E				E
S-band TRK			E				E				E

NOTE: E = Emergency Support

D. FREQUENCY ASSIGNMENTS

Frequencies are allocated according to the following table:

<u>System</u>	<u>Uplink (MHz)</u>	<u>Downlink (MHz)</u>	<u>Polarization</u>
S-band TLM	2287.5	TBD	
S-band CMD	2106.4		TBD
S-band TRK	2106.4	2287.5	TBD

E. SUPPORT PARAMETERS

The support parameters for the Telemetry, Command, and Support Systems are listed below:

(1) Telemetry

Data Streams	2
Formats	TBD
Subcarrier frequencies	1024 kHz
Bit Rates	384 b/s, 16 kb/s
Coding	
Record	Analog

(2) Command

Format	PCM (NRZ-L) PSK/PM
Bit Rate	2 kb/s
Subcarrier Frequency	16 kHz

(3) Support

Uplink Power	Up to 2 kW
Antenna Rate	High
Antenna Angle Rate	Required
Antenna Autotrack	Required
Doppler Rates	TBD
Range Format	Sine
Recording	
. Analog	Yes
. Digital	No

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