

SPACE MISSIONS HISTORY
UCSD/CASS HIGH ENERGY ASTRONOMY GROUP

March 2019

SOURCES: UCSD High Energy Astronomy Group Records
 NASA Pocket Statistics, 1988
 GSFC HEASARC Mission Data
 NSSDC Archives

MISSION	ALTERNATE DESIGNATION	LAUNCH DATE	INSTRUMENT AND RANGE	P.I. INST/UCSD	CONTRACTOR/ SUBCONTRACTOR	INITIAL ORBIT	PRIME DATA END	TERMINATION MODE	RE-ENTRY
OSO-1	S-16	7-Mar-62	U of Minnesota Gamma-ray Experiment 0.1-3.0 Mev OSO-1 Data Analysis	Winckler/ Peterson Peterson	U of Minnesota UCSD	575 km Cir/32.8 ^o inc. approx 90 min. Period	6-Aug-63	2nd tape recorder failed	8-Oct-81
ORS-3	ERS-17	20-Jul-65	Phoswich Scintillator Counter 0.03-10 MeV	Vette/Peterson	TRW/UCSD	153x112684 km/34.4 ^o inc. 2608 min. Period	3-Nov-65	Transmitter failed	
	S-57 OSO-C	25-Aug-65	UCSD X-Ray Telescope 50 -210 keV	Peterson	UCSD/BBRC	Launcher failed to insert into orbit			
OSO-3	OSO E1	8-Mar-67	UCSD X-Ray Telescope 50 -210 keV	Peterson	UCSD/BBRC	550 km cir/32 ^o inc. approx 90 min. Period	27-Jun-68	2nd tape recorder failed	4-Apr-82
ORS-4	ERS-18	28-Apr-67	Gamma-Ray Experiment 0.25-6 MeV	Vette/Peterson	TRW/UCSD	8621x111583 km/32.9 ^o inc. 2840 min. Period	3-Jun-68	Timer turn-off	
Apollo 15		26-Jul-71 1334 GMT	Gamma-Ray Spectrometer Experiment 0.3-10 Mev Nominal	Arnold	JPL/ATC	Apollo Translunar Lunar ^o : 374x93 km/154 ^o inc.	149 Hours total data	Service Module Shutdown	7-Aug-71 2045 GMT (Splashdown)
OSO-7	OSO-H	29-Sep-71	Cosmic X-Ray Experiment 7-550 keV Solar X-Ray Monitor 2-300 keV	Peterson Peterson	UCSD/BBRC UCSD/ATC	321x572/33.1 ^o inc. 93.2 min. Period	1-May-73	2nd tape recorder failed (Real-time data to re-entry)	29-Jul-74
Apollo 16		16-Apr-72 1754 GMT	Gamma-Ray Spectrometer Experiment 0.3-10 Mev Nominal	Arnold	JPL/ATC	Apollo Translunar Lunar ^o : 98 km cir./154 ^o inc.	176 Hours total data	Service Module Shutdown	27-Apr-72 1945 GMT (Splashdown)
HEAO-1	HEAO-A	12-Aug-77	Hard X-Ray/ Low-Energy Gamma-ray Experiment (HEAO-A4) 15 keV-10 MeV	Peterson & Lewin	UCSD/T-Z	432 km cir/22.8 ^o inc. 93.5 min Period	9-Jan-79	Lost Attitude Control: Atmospheric Drag	15-Mar-79
CGRO	GRO	5-Apr-91	Spectroscopy Detectors: Burst and Transient Source Experiment (BATSE) 50 kev-10 MeV	Fishman/Matteson	MSFC/UCSD	362x457 km/28.5 ^o inc. Approx 90 min. Period	4-Jun-00	Controlled re-entry	4-Jun-00

RXTE	XTE	30-Dec-95	Hard X-Ray Timing Experiment 15-250 keV	Rothschild	UCSD/Perkin-Elmer	580 km cir/23° inc.	Through Jan 7 2012	Turned off power Jan 2012
INTEGRAL	INTEGRAL	17-Oct-02	Pulse-Shape Discriminators: Spectrometer Instrument (SPI)	Vedrenne & Schonfelder/ Matteson	GSFC/UCSD	10000 X 152700 km/51.6° inc. 72 hr. Period	Operating	

Spacecraft Names:

OSO	Orbiting Solar Observatory
ORS	Octahedronal Research Satellite
ERS	Environmental Research Satellite
HEAO	High Energy Astronomical Observatory
CGRO	Compton Gamma-Ray Observatory
RXTE	Rossi X-Ray Timing Explorer
INTEGRAL	International Gamma-ray Astrophysics Laboratory

Institutions:

BBRC ¹	Ball Brothers Research Corporation
TRW	Thompson-Ramo-Wooldridge
ATC	Analog Technology Corporation
JPL	Jet Propulsion Laboratory
T-Z ²	Time-Zero Corporation ²
MSFC	Marshall Space Flight Center (NASA)
GSFC	Goddard Space Flight Center (NASA)

Notes:

a) Lunar orbit varied during mission

- 1) Due to a series of corporate restructurings, BBRC became Ball Aerospace Systems Division (BASD) in 1978, and is presently Ball Aerospace and Technologies Corporation (BATC).
 2) Acquired by BBRC in 1973