

Technology	NASA Sounding Rocket	NASA Mission
UV Geiger Counter	1955 - NRL - Kupperian - NRL25	<i>OAO - 2, Copernicus (OAO-3), TD-1, ANS</i>
X-ray Geiger Counter	1962 - ASE - Giacconi - AB3.352	<i>HEAO-I</i>
Collimated X-ray Proportional Counter	1963 - NRL - Bowyer - NB3.130	<i>Uhuru (SAS-1), SAS-3, OAO-8</i>
Chopped IR Cryogenic Telescope	1965 - Cornell - Harwit - NF3.162R	<i>IRAS, Spitzer</i>
Objective Grating Far-UV Spectrograph - Film	1965 - Prin - Morton - 4.133UG	<i>IMAPS</i>
InSb, InAs, Au:Ge IR photodiodes	1965 - Cornell - Harwit - NF3.162R	<i>NICMOS on HST, Spitzer</i>
X-Ray Modulation Collimator	1966 - ASE/MIT - Giacconi/Oda - 4.148CG	<i>Uhuru (SAS-1), SAS-3, OAO-8</i>
Multi-anode X-ray detectors	1967 - UWI - Code/Bless/ Kraushaar - 4.172	<i>HEAO-I</i>
Pulse Shape Discriminator	1967 - ASE - Giacconi/Gursky - 4.228CG	<i>Uhuru (SAS-1), SAS-3, OAO-8</i>
X-ray Polarimeter	1968 - Columbia - Novick - 4.236UG	<i>OSO 8</i>
LiF - Al, FUV Electronographic Grating Spectrograph	1970 - NRL Carruthers - 4.328DG	<i>Apollo -16 Far-UV Camera/Spectrograph</i>
Grazing incidence mirrors	1972 - ASE - Kellogg - 13.30 CG	<i>Skylab, Enistein, BBXRT, EUVE, Chandra</i>
MCP with wire grid anode - HRI	1972 - ASE - Kellogg - 13.30CG	<i>Enistein, Chandra</i>
Image Intensified MCP - Film, Folded Concave Grating	1975 - GSFC - Stecher - 26.26GG	<i>UIT</i>
Fixed Rowland Circle Spectrograph	1977 - JHU - Fastie - 21.54UG	<i>HUT, ORFEUS, FUSE, HST/COS</i>
Multi-Anode Micro-channel Array (MAMA)	1984 - CU - Snow - 27.84UG	<i>STIS, ACS and COS on HST</i>
Image Intensified Reticon I-D	1985 - JHU - Feldman - 4.342UG	<i>HUT on Astro-1, -2</i>
X-ray CCD (including cosmic ray veto)	1987 - PSU - Garmire - 36.030UH	<i>ACIS/Chandra, SIS/ACSA, XRT/SWIFT</i>
Electron Bombarded CCD	1987 - PU - Jenkins - 27.82UG	<i>ORFEUS/IMAPS</i>
Delay Line Readout Systems for UV MCP Detectors	1994 - CU - Green - 36.102UG - HIRES	<i>SOHO, FUSE, GALEX, COS on HST</i>
Aberration Corrected Holographic Gratings	1994 - CU - Green - 36.102UG - HIRES	<i>FUSE, HST/COS</i>
Reflective dielectric multilayer coatings	1996 - Columbia - Martin - 36.113UG - NUVEWS	<i>GALEX</i>
X-ray Quantum Calorimeter	1996 - UWI - McCammon - 27.140UH	<i>Suzaku (Astro-E2), NEXT, Con-X/IXO</i>
InSb 256 x 256	1997 - CIT - Lange - 36.163 UR	<i>Spitzer-IRAC</i>
Tomographic Inversion Spectrograph	1998 - BU - Chakrabarti - 36.177UG -- SPINR	<i>SPIDER</i>
Off-Rowland Circle Imaging Spectrograph	2004 - CU - Wilkinson -36.197UG - ISIS	<i>COS</i>
Off Plane X-ray Grating Array	2006 - CU - CASH - 36.224UH -- CyXESS	<i>Con-X/IXO</i>
Lost in Space Star Tracker - ST5000	2007 - UWI - Nordsieck/Percival/Costello -12.059	<i>Sounding Rockets, Balloons, Small Satellites</i>

Examples of significant new technology developed and proven on sounding rockets that has enabled major NASA missions.