

ATM SUPPORTING INSTRUMENTS

ORGANIZATION	PRINCIPAL INVESTIGATOR	INSTRUMENT	PURPOSE
HAO	DR. C. NEWKIRK	OCCULTING DISC ALIGNMENT SYSTEM	CENTER INTERNAL OCCULTING DISK TO MINIMIZE SCATTERED LIGHT
NRL	MR. J. D. PURCELL	EUV DISPLAY TELESCOPE	SOLAR DISPLAY IN EUV FOR MAIN TELESCOPE ORIENTATION
AS&E	DR. R. GIACCONI	X-RAY IMAGE DISSECTOR TUBE	X-RAY FLUX DETECTOR TO ORIENT X-RAY TELESCOPE
GSFC	MR. J. E. MILLIGAN	PROPORTIONAL COUNTERS	X-RAY FLUX DETECTOR TO ORIENT X-RAY TELESCOPE
MSFC	N.A.	HYDROGEN-ALPHA DISPLAY TELESCOPE	PRIMARY DISPLAY OF SOLAR DISC FOR TARGET SELECTION BY ASTRONAUT

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1-25-67

FIGURE 10

EXPERIMENTS

APOLLO TELESCOPE MOUNT EXPERIMENTS

The primary focus of experiments for the AAP-3/AAP-4 mission centers around the Apollo Telescope Mount. The five major experiments planned for ATM are described below:

(1) *White Light Coronagraph*.—To monitor the brightness, form and polarization of the solar corona from about 1.5 to 6 solar radii from the center of the sun.

(2) *Ultraviolet Coronal Spectrographs*.—To obtain high resolution pictures of short-time variations in the solar atmosphere such as flares.

(3) *X-Ray Spectrographic Telescope*.—To study solar flare emissions in the soft X-ray wavelengths of 2-10 angstroms.

(4) *Ultraviolet Spectrometers*.—To accomplish vacuum ultraviolet solar astronomy from above the earth's atmosphere utilizing the participation of the astronaut in the observing sequence.

(5) *Dual X-ray Telescopes*.—To map the X-ray emission from the solar corona in various wavelength bands and to measure the total flux and crude spectral shape of the solar X-ray emission in two bands.

OTHER SCIENTIFIC AND ENGINEERING EXPERIMENTS

Other scientific and engineering experiments to be performed include reactivation and reuse of experimental equipment in the Orbital Workshop. In addition, among the other experiments that would be conducted are:

(1) *Star Horizon Automatic Tracking*.—To validate the definition of a horizon based on scattered visual light, and the measurement techniques for on-board horizon position during flight and to provide a worldwide check of the horizon model.

(2) *Zero G Single Human Cells*.—To study the influence of zero gravity on living human cells and tissue cultures and try to determine whether or not the absence of gravity has a significant effect on isolated human cells.

(3) *Galactic X-ray Mapping*.—Survey a large portion of the sky for X-ray sources of very low flux and gather spectral data of limited resolution of the sources.