Observations of the Galactic Center with the Einstein Observatory. A. Epstein, E. Mandel, W. Forman, C. Jones, J. Pye, and L. Van Speybroeck, Harvard-Smithsonian Center for Astrophysics. - We have obtained observations of the galactic center with the imaging instruments on the Einstein X-Ray Observatory. The emission shows several point sources as well as a region of diffuse emission. One of the sources is coincident with Sagittarius A and is probably associated with our galactic nucleus. We will discuss the spectrum and time variability of the point sources and discuss mechanisms for the production of the diffuse emission. The observations of our galactic center will be compared to the emission from the nuclei of other galaxies observed with the Einstein Observatory.

Observations of the Large Magellanic Cloud with the Imaging Proportional Counter Aboard the Einstein Satellite. - K. S. Long, G. A. Chanan, D. J. Helfand, and W. H.-M. Ku, Columbia U. - A survey of the Large Magellanic Cloud is being conducted using the imaging proportional counter aboard the Einstein satellite. In the first portion of the survey, five sources were discovered including four suspected supernova remnants: HII 66, N86, N49, and (N49). The X-ray luminosities of N49 and (N49), $4 \times 10^{38}$ ergs s$^{-1}$ and $8 \times 10^{38}$ ergs s$^{-1}$, respectively, are large compared with supernova remnants of similar size in the Galaxy.

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HEAO-1 Observations of AG53B-66, A.E. Szymkowiak, F.E. Marshall, E.A. Boldt, S.S. Holt, and P.J. Serlemitsos, NASA/USFC. - The Ariel 5 satellite observed two outbursts from AG53B-66 in 1977 June and July. Subsequent observations by the A2 experiment aboard HEAO-1 show recurring flares. This source, in the direction of the large magellanic cloud, appears to be susceptible to flaring during a small segment of a 16.6 day period.

13.31.10 HEAD-1 Observations of High Energy X-rays from M81, S. Dl, P. Primini, P. Byrne, F. Dobson, J. Derry, E. Komiss, R. Lang, A. Levine, W.A. Wharton, W.H.G. Lewin, MIT, W.A. Baity, J.L. Hatesco, and L.E. Peterson, UCSD. - Results of pointed observations of the Seyfert 1 galaxy, M81, by the hard X-ray detectors of the HEAD-1 High Energy X-ray - Low Energy Gamma Ray Experiment are presented. The source was observed for approximately 30 hours (alternating 15 minutes on and 15 minutes off the source) on October 15, 19 and 22, 1978. The data analyzed to date show significant fluxes in 3 energy bands from 13-60 keV. Upper limits have been obtained for the range 60-150 keV. The best fit spectral index is compared to observations at other wavelengths.

14.31.09 Spectral Steepening in High Energy Photon Spectra. B. Hartman, G. F. Bigman, C. E. Fichtel, and D. J. Thompson, NASA/GSFC. - Upper limits on $\gamma > 100$ MeV $\gamma$-ray emission from active galaxies, obtained from SAS-2 data, and the $\gamma$-ray emission from 3C273 observed by COS-B, are compared with recent spectral information for those objects in the x-ray and low energy $\gamma$-ray ranges. In every case for which sufficient information is available, a substantial steepening of the spectrum is required between 100 keV and 50 MeV. This steepening may therefore be a general feature of high energy photon emission from active galaxies.

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