Monitoring the X-ray Remnant of SN 1987A

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[Contributed talk, 15min.]

Abstract

We report on the results of our monitoring program of the remnant of SN 1987A with the Advanced CCD Imaging Spectrometer (ACIS) on the *Chandra* X-ray Observatory. Two new observations have been performed in AO2, bringing the total to four monitoring observations over the past two years. Over this same time period, the data processing techniques available to us at Penn State have expanded, and now include proprietary techniques for correction of imperfect Charge Transfer Effiency and for use of charge spreading to provide angular resolution at better than the pixel size of the CCD detector. We have processed all four observations using sub-pixel resolution to obtain the highest possible angular resolution, and using our CTI correction software to provide more reliable spectral analysis and flux estimations.

We here report the results of the data analysis from all of the four *Chandra* observations of SN 1987A. The high angular resolution images indicate the associations of X-ray bright knots with the optical hot spots as observed with *HST*. The X-ray flux variation implies an increase of $\sim$60% over the 18-month period of these observations, with the X-ray flux currently increasing linearly.

CATEGORY: SUPERNOVAE, SUPERNOVA REMNANTS AND ISOLATED NEUTRON STARS