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A HIGH RESOLUTION STUDY OF THE X-RAY EMISSION FROM 3C400.2

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Final Report

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X-ray Data

The *ROSAT* HRI observation of 3C400.2 was conducted and the data have been received by the PI. The data have been processed using the Extended Source Analysis SW (ESAS) developed by Steve Snowden for the analysis of extended objects with *ROSAT*. The ESAS SW models and subtracts the particle background of the *ROSAT* HRI which is the dominant contributor to the non-cosmic background in the HRI. The background-subtracted image was smoothed with an adaptive-smoothing algorithm in order to enhance faint structure but also to maintain the superb angular resolution of the HRI where a sufficient number of counts were available. We have also used the ESAS SW to analyze the existing archival PSPC data. We have generated background-subtracted and merged images from the multiple PSPC observations. In the future, we will conduct a detailed comparison between the HRI and PSPC images. In addition, we plan to use the existing archival *ASCA* data to better determine the spectrum as a function of position in the remnant.

The PI has not been able to finish the analysis and write the paper due to his demands on his time supporting operations of the Chandra X-ray Observatory. The PI will have more time in the coming year and hopes to finish the analysis.

Hardware Procurement

This grant financed the purchase of a DDS IV tape drive and DDS IV tapes. This will be helpful in the processing and analysis of the data.