

# **Time variability of nonthermal radiation in the vicinity of the forward shock of Cas A supernova remnant**

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A detection of time variability in the radiation flux and spectral evolution of X-ray clumps and filaments in the vicinity of a forward shock in the Cas A supernova remnant is presented. The Chandra Observatory data obtained in 2000–2004 are used in this analysis. The variability was found in the emission of a few clumps and filaments at the  $3\sigma$  confidence level. It was also found that clumps with increasing flux are more rare than clumps with decreasing flux. We discuss a possible interpretation of these results.