

K04b **X-ray line analysis of the Fe groups of Cassiopeia A with Suzaku**

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The young (~ 340 yr old) supernova remnant Cassiopeia A seems to consist of a number of thermal and non-thermal X-ray emitting knots/filaments (e.g., Hughes, J. P., et al. 2000). Suzaku X-ray observations of Cassiopeia A were carried out during the performance verification phase and were published as Maeda et al. (2009). The peak of the non-thermal X-rays appears at the western part. The peak position of the TeV γ -rays measured with HEGRA and MAGIC are also shifted at the western part with the 1-sigma confidence. Since the location of the X-ray continuum emission was known to be presumably identified with the reverse shock region, the possible keV-TeV correlations give a hint that the accelerated multi-TeV hadrons in Cassiopeia A are dominated by heavy elements in the reverse shock region.

Two follow-up observations with a long exposure were approved. The 1st follow-up observation was made in 2012 while the other will be made in this fiscal year. The first follow-up observation was as long as ~ 165 ksec. In this talk, we will present a status of the Suzaku results using the 1st half data. K-shell transition lines from highly ionized ions of various elements were confirmed including K-lines from Fe groups of such as Cr-K α and Fe-K α . Owing to the high statistics of the data, the map of Cr-K line is made. Comparison of the flux map of Cr-K line with that of Fe-K will be presented.