

## T08a            **The Excess X-ray Luminosity around the cD Galaxy in the Cluster of Galaxies**

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By utilizing the ASCA Performance-Verification phase data of both GIS and SIS, we studied the properties of the intra-cluster medium in the cD cluster Abell 1795 (results from the spatially integrated spectroscopy on this cluster have been published in Fabian et al. (1994)). We find that there is no significant abundance enhancement in the central region of this cluster, while the gas temperature there are found to be lower than that of the outer regions, which can be ascribed to an additional cool emission component ( $L_X^{\text{cool}} = 8.3_{-6.4}^{+8.8} \times 10^{43} \text{ erg sec}^{-1}$ ). A strong, central X-ray excess can be detected not only in the soft X-ray band, but also in the hard X-ray band. The excess is so strong ( $L_X^{0.7-3\text{keV}} = 3.78_{-0.26}^{+0.26} \times 10^{44} \text{ erg sec}^{-1}$ ,  $L_X^{3-10\text{keV}} = 2.73_{-0.25}^{+0.25} \times 10^{44} \text{ erg sec}^{-1}$ ) and can be detected in such a broad energy band that it is difficult to be explained by the cooling flow scenario. Thus, we speculate that the brightness excess is most likely due to the sharply shaped potential well in the central region of Abell 1795. This is confirmed by the calculation of the distribution of the gravitating mass. We also found similar phenomena in cD clusters Abell 262 and Abell 2199.

### References

Fabian A.C., Arnaud K.A., Bautz M.W., Tawara Y. 1994, ApJ 436, L63