

ROSAT OBSERVATIONS OF CLUSTERS CL0500-24 & CL0939+4713

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Cluster CL0500-24: HRI (Schindler & Wambsganss 1997, *A&A*, **322**, 66)

- *ROSAT*/HRI observation (Feb.1995): 37.8 ksec
- Relatively low X-ray luminosity, high gas mass fraction: $L_{X,ROSAT} = 3.1^{+0.6}_{-0.4} \times 10^{44}$ erg/s, $L_{X,bol} \approx 5.6^{+4.2}_{-2.0} \times 10^{44}$ erg/s, $f_{gas} \approx 30^{+30}_{-10}$
- X-ray emission correlated with Northern subclump
- Derived total mass (≤ 1 Mpc) very low: $M_X \approx (1.5 \pm 0.8) \times 10^{14} M_{\odot}$

Cluster CL0939+4713: PSPC (Schindler & Wambsganss 1996, *A&A*, **313**, 113)

- *ROSAT*/PSPC observation (Nov. 1991): 14.4 ksec
- Low X-ray luminosity and Temperature: $L_{X,ROSAT} = (7.9 \pm 0.3) \times 10^{44}$ erg/s, $T_X = 2.9^{+1.3}_{-0.8}$ keV
- Unusual properties of CL0939-24 can be explained if it is a merger

Cluster CL0939+4713: HRI (Schindler et al. 1997, in preparation)

- *ROSAT*/HRI observation (Oct. 1996): 45.6 ksec; reveals dramatically different features:
Luminosity of former Maximum M3 decreased by more than a factor of 10 within 5 years! A background quasar is clearly visible: very luminous $L_{X,Q} = 1.4 \cdot 10^{45}$ erg/sec!
- Cluster emission can be traced out to 2.5 arcmin (≈ 1 Mpc) with 1060 source counts, corresponding to $L_X = (6.9 \pm 0.4) \times 10^{44}$ erg/s.