

BEPPOSAX OBSERVATION OF THE QUASAR 3C273

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The quasar 3C273 was observed from 18th to 21st July 1996 with the Narrow Field Instruments (NFIs) onboard BeppoSAX satellite (Boella et al 1997). The total exposure time was 12 ksec for LECS, 131 ksec for MECS and 64 ksec for HPGSPC and PDS.

LECS and MECS data have been accumulated on circular region of 8' and 4' respectively, and their relative background has been extracted from blank fields observations. The canonical procedure has been applied to obtain PDS and HPGSPC data: the off-source spectrum is subtracted from the on-source one.

Figure 1 presents the observed light curves in three energy ranges: 0.1–2 keV (LECS), 2–10 keV (MECS) and 13–200 keV (PDS). Each point corresponds to an integration time of 40 ksec. MECS light curve shows a significant decrease of 17% of the total count rate. A smaller variation is detected in LECS data (12%), that can be justified by the presence of some soft excess. PSD data do not show any significant variation, being the errors too large to detect variations of small percentages.

The four NFIs spectra were fitted simultaneously with a single power law plus low energy absorption. A detailed description of the analysis can be found in Grandi et al 97. The fit gives for the spectral index $\Gamma = 1.568 \pm 0.01$ and for the unabsorbed flux in the 2–10 keV energy band $F_{2-10} = (7.1 \pm 0.2) \times 10^{-11} \text{ erg cm}^{-2} \text{ s}^{-1}$, being the low energy absorption constrained to the galactic value.

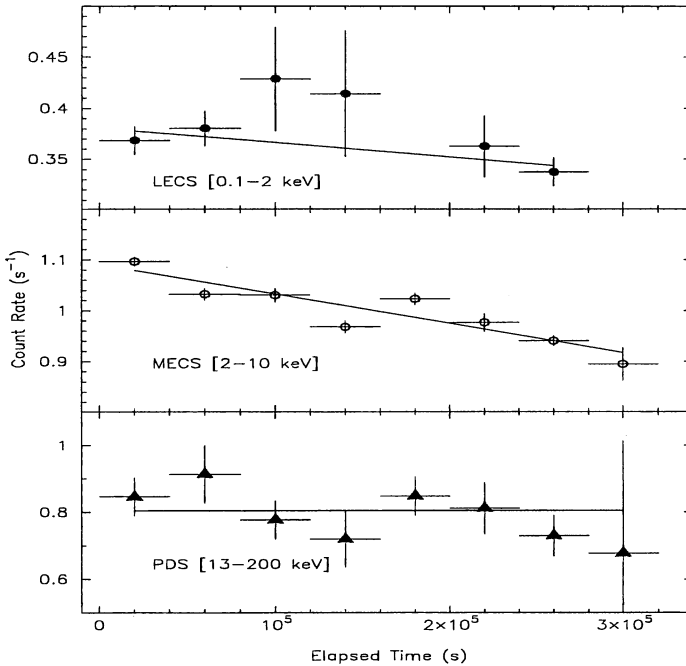


Figure 1. Observed count rate in the energy ranges 0.1–2 keV (LECS), 2–10 keV (MECS) and 13–200 keV (PDS). Data are fitted with a line in order to evaluate the variation with time.

Some distortions from the single power law are moreover evident. An emission line at $E=6.22\pm 0.12$ keV (source rest frame) and $EW=30\pm 12$ eV is present in MECS spectrum. The residuals of the fit of LECS data with a single power law presents an excess below 0.5 keV and a depression around 0.6 keV, that can be taken into account fitting with a broken power law plus an absorbing feature.

The spectral analysis has been performed using public available matrices as December 31st 1996, however, the values of all spectral parameters are confirmed using the last release of the matrixes (August 31st 1997).

Reference

Boella, G. Butler R.C., Perola G.C. et al. 1997, A&AS, 122, 299
Grandi, P., Guainazzi, M., Mineo, T., et al 1997 A&AS in press