II. The XMM-LSS Survey

• Results of the same analysis in the [2-10] keV band are consistent with a random and uniform significance (around 2 × 10^-3).

• ACF and NN_test both show a positive clustering signal in the [0.5-2] keV band with low effects accurately.

• Mirror vignetting minimum detectable flux at an off-axis distance of 10 arcmin is higher by a factor of 2 as compared to optical-axis centre.

• Generation of an ensemble of random and uniform catalogues simulating the selection data points, each containing the same number of sources as the parent data catalogue.

III. Selection of point-like sources

• Sources from the inner 10 arcmin of each pointing (PSF distortion at high off-axis angle).

• Confirmed extended X-ray sources removed from the [0.5-2] keV (soft) sample, every source considered as point-like in the [2-10] keV (hard) sample.

• Significance of source selection based upon S/N ratio.

IV. Generation of random (uncorrelated) catalogues (A)

• Significant variation in sensitivity and irregular holes crucial to simulate selection effects accurately.

• Mirror vignetting minimum detectable flux at an off-axis distance of 10 arcmin is higher by a factor of 2 as compared to optical-axis centre.

• Generation of an ensemble of random and uniform catalogues simulating the selection effects of the data points, each containing the same number of sources as the parent data catalogue.

V. Sky coverage, logN-logS and the X-ray background

- Fig. 1: The sky coverage (left) and log N-log S (right) of the XMM-LSS sample within the central 10 arcmin-radius pointing regions, for the 2-10 keV (top) and 0.5-2 keV (bottom) bands, for a threshold S/N>3 in both bands. The sky coverage is shown separately for the central 10 arcmin region (shaded) and the extended region (dashed). The log N-log S is shown for all sources, with contributions from clusters (symbols with error bars) and point-like sources (open symbols).

- Fig. 2: Cumulative X-ray background intensities in the 2-10 keV band for the detected point sources in the full field of the XMM-LSS survey. The dashed line is the total X-ray background measurement reported by De Luca & Molendi (2004); the dotted line is the measurement of Hickox & Markevitch (2006) converted to 2-10 keV assuming a power-law with photon index equal to 1.4.

- Fig. 3: Cumulative nearest-neighbour distribution function for the soft (bottom, left) and hard (top, right) bands for the point-sources with S/N>3. The solid curve is the best-fit power-law model, while the dotted line marks ω=0. Previous power-law ACFs of Basilakos et al. (2004, for the hard band) and of Vikhlinin & Forman (1995, for the soft band) are shown as the dashed and dot-dashed lines respectively.

VI. Clustering results

- Tab. 2: Basic results of the auto-correlation analysis for various samples.

• ACF of Basilakos et al. (2004).

• Processing pipeline presented in Pacaud et al. (2006).

VII. Discussion and conclusions

• ACF and NN_test both show a positive clustering signal in the [0.5-2] keV band with low significance (around 2 σ). Consistent with Basilakos et al. (2005) within the error bars.

• Results of the same analysis in the [2-10] keV band are consistent with a random and uniform distribution. This is at odds with Basilakos et al. (2004).

• Selecting hard spectrum sources over a reduced area (HR>0.2, SN>2 on 1.6 degree) does reveal a rather significant clustering signal up to ~200 arcsec, consistent with Basilakos et al. (2004).