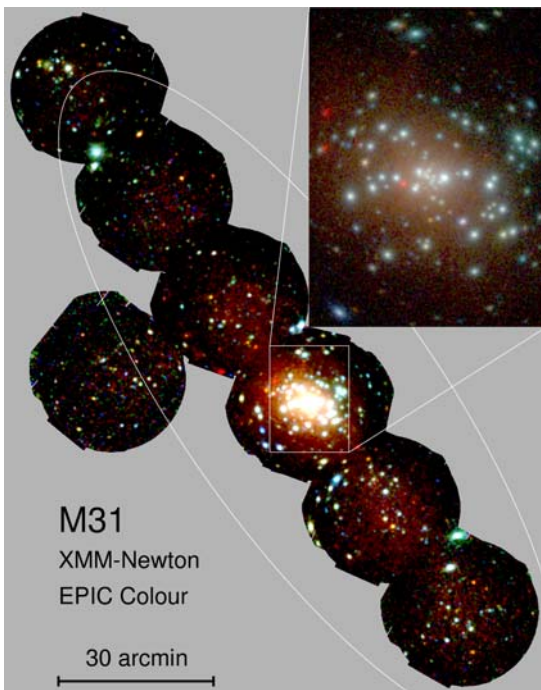
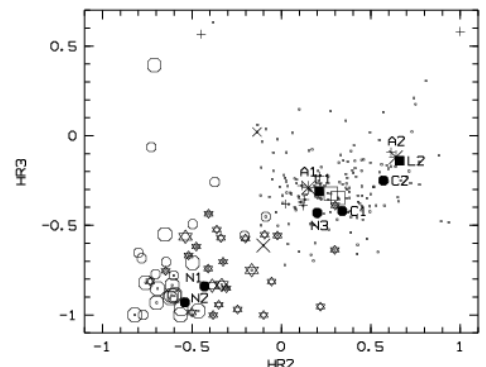
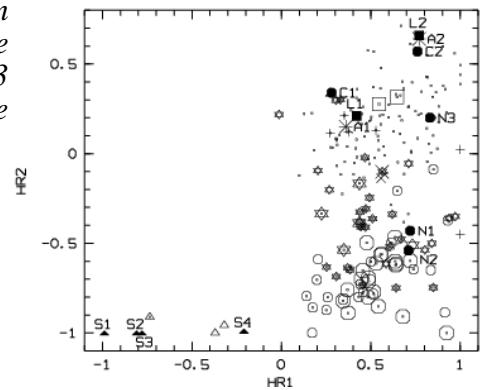
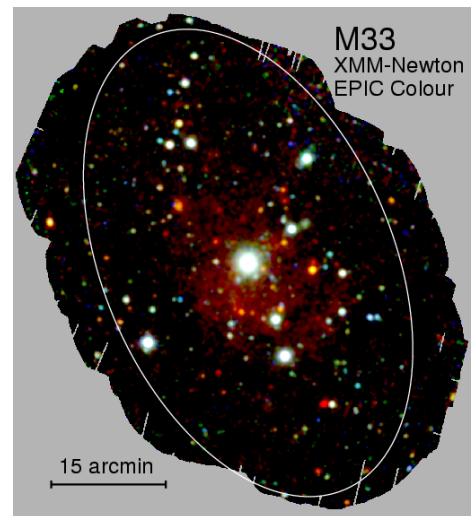


We have homogeneously analyzed all archival XMM-Newton EPIC observations of the Local Group galaxies M 31 and M 33 and detected 856 and 408 sources, respectively. The sources are classified using X-ray hardness ratio and information from other wavelengths.

In our analysis we used five energy bands (0.2-0.5, 0.5-1.0, 1-2, 2-4.5, 4.5-12 keV), defining four hardness ratios from adjacent energy bands, and all EPIC instruments to create images and do source detection. We identified or classified the sources in the galaxies (supersoft sources (SSSs), supernova remnants (SNRs), X-ray binaries (XRBs)), foreground stars and objects in the background (galaxies, cluster of galaxies, active galactic nuclei (AGN)) and more than doubled the number of sources known in the fields. (Pietsch, W., Freyberg, M., Haberl, F. 2004b, A&A, submitted; Pietsch, W., Misanovic, Z., Haberl, F., et al. 2004a, A&A, 426, 11)



XMM-Newton EPIC low background three colour images combining PN and MOS cameras for M 31 (left) and M 33 (right). Red, green and blue show respectively (0.2-1, 1-2, 2-12) keV bands. The optical extent of the galaxies is indicated by D_{25} ellipses. The images are smoothed with a Gaussian of 20" FWHM. The insert in the M 31 image shows a factor 3 zoom-in on the centre area (5" smoothing).



Two Hardness ratio (HR) diagrams of M 33 (right) sources detected by XMM-Newton. Shown as dots are only sources with HR errors smaller than 0.2. Foreground stars and candidates are marked as big and small stars, AGN as crosses, SSS as triangles, SNRs as hexagons Globular cluster sources and XRBs as squares. In addition, HR from measured objects in the Galaxy or Magellanic Clouds or determined from model spectra for the source classes are shown by filled symbols.

SSS clearly separate by their HR1. Thermal SNRs and foreground stars cover the same area in the HR2-HR1 diagram and can be separated using optical information. XRBs, „plerionic“ type SNRs and AGN do not separate in the HR diagrams and all show „hard“ HRs.

In both galaxies, many new SSS, SNRs and foreground stars are detected or now identified by their X-ray properties.