# The galactic X-ray background in the 3/4 keV band

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ROSAT PSPC shadowing experiments of the soft X-ray background (SXRB) have established the existence of thermal X-ray emission from beyond the Local Bubble, which may be assigned to the galactic halo (Snowden et al. 1995 and references therein). We have analyzed All-Sky Survey maps (Snowden et al. 1997a) mainly in the 3/4 keV band and investigated the nature of this distant emission in terms of spatial structure and spectrum. If the Local (Hot) Bubble is in collisional ionization equilibrium (e.g. Raymond-Smith-plasma) then a (standard) temperature of $\log T\,[\mathrm{K}] \sim 6.00$ would only give rise to a few % emission in the 3/4 keV band. To fit the observed 3/4 keV band distribution another hotter commponent is required. If all 3/4 keV emission at low galactic latitudes were local then a local temperature of $\log T \sim 6.17$ would follow. Shadowing observations of the only cloud assumed to be within the Local Bubble, MBM 12, cannot rule out a Local Bubble origin, but are consistent with a distant origin. Placing the bulk of the 3/4 keV band emission beyond the Local Bubble gives $\log T \sim 6.45$.

The small-scale structure ($< 1^\circ$) of the X-ray sky has been analyzed by means of fluctuation analysis. Medium-scale structure of the distant 3/4 keV emission seems to be rather complicated. This may be due to intrinsic variations of the halo emission and/or absorption variations and/or effects from the Local Bubble. Especially towards directions of lowest $N_{\mathrm{H}}$ (e.g. Lockman Hole) significant deviations from simple spatial distribution models occur. On large scales ($> 40^\circ$) we can identify a hot galactic halo and galactic bulge emission. The 3/4 kev band emission seems to have a different spatial distribution than in the 1/4 keV band (Snowden et al. 1997b).

We have created All-Sky maps with higher spectral resolution (20 bands) to allow better spectral fitting of selected regions. Such an example of the spectrum of part of the galactic plane with prominent 3/4 keV emission is shown in the figure. Survey data enable us to study also the spatial variations of the spectral features.

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