## Q19a Milky Way Hot Gaseous Halo Revealed by Oxygen Absorption Lines of the Galactic X-ray Sources

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The observed mass in stars and cold gas of the Milky Way seems to fall below the anticipated baryonic mass according to the total virial mass and the cosmic mean baryon fraction. The local missing baryons are possibly embedded in a hot gaseous halo at a temperature of $\sim 10^6$ Kelvin, whose heating mechanism is still under debate. While the dense disk-like distribution is expected to originate from the stellar feedback in the Galactic disk, a rarefied spherical component may form via accretion shock when pristine intergalactic medium falling onto the dark matter halo. To resolve the spatial distribution of the hot gas inside the Milky Way, which is a key to constrain the origin of the hot gas and the baryonic mass, we analysed high resolution spectra of the galactic X-ray sources using the archival data from the Reflection Grating Spectrometer (RGS) on board the *XMM-Newton* X-ray Telescope. From the stacked spectra of the target background sources, OVII and OVIII absorption lines are clearly detected and the fitted OVII column densities have shown significant dependence on distance and the Galactic latitude. The effect of the intrinsic absorption from the binary systems are removed so that the result represents for the interstellar medium along the line of sights. Blue shifts in absorption lines corresponding to a velocity faster than 200 km/s are observed for several line of sights, suggesting the capability of the hot gas to escape from the dark matter halo potential well. We also compared the observed OVII and OVIII column densities and their ratio OVII/OVIII distribution with theoretical models.