

Origin of the Galactic ridge X-ray emission: millions of sources

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Origin of the Galactic ridge X-ray emission (GRXE) was a long standing problem of X-ray astronomy. Explanations of the ridge emission by emission of a hot thermal plasma or by interaction of cosmic rays with interstellar matter were connected with serious problems. Latest studies of the ridge emission with highest sensitivity and finest spatial resolution X-ray telescopes (like CHANDRA) have not provided conclusive answer. We have studied the morphology of the Galactic ridge X-ray emission with Rossi Explorer and showed that the GRXE contains both disk and bulge/bar components, which parameters very well agree with those of known stellar Galactic components. We have showed that the GRXE volume emissivity well traces the stellar mass density in the Galaxy. Average Galactic unit stellar mass emissivity of the GRXE can be easily explained by average unit stellar mass X-ray emissivity in the Solar neighbourhood. Dominant contributors to the GRXE are accreting white dwarfs and coronally active stars. These types of X-ray sources are numerous, they might significantly contribute to the emission of X-ray emitting galaxies and should be taken into account in studies of extragalactic objects.