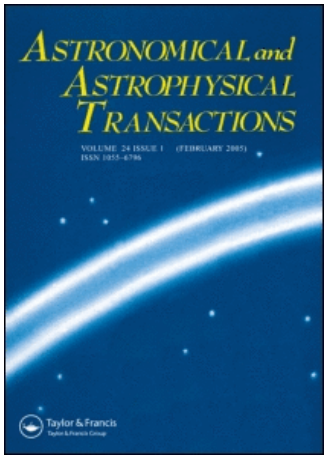

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Mikhail E. Prokhorov [a]; Konstantin A. Postnov [a]
[a] Sternberg Astronomical Institute, Moscow, Russia

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THE DISTRIBUTION OF OLD NEUTRON STARS IN THE GALAXY

MIKHAIL E. PROKHOROV and KONSTANTIN A. POSTNOV

Sternberg Astronomical Institute, 119899 Moscow, Russia

The distribution of old galactic neutron stars is computed for the model galactic potential and the initial neutron star velocity distribution, following from the evolution scenario of binary systems. Neutron stars are supposed to get their initial velocities during a (asymmetric) supernova explosion of a single massive ($M_0 > 10M_\odot$) star or a massive component of a binary system. It is shown that the old neutron star population is capable of filling a torus-like volume, extending to a few tens of kiloparsecs above the galactic plane. Statistical tests, related to the spatial distribution of gamma-ray bursts, are carried out for the distribution obtained.

KEY WORDS Pulsars, old neutron stars, space distribution, gamma-ray bursts.

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