

Evolution of the inclination angle of radio pulsars is observable effect

Ya.N. Istomin (1), T.V. Shabanova (2)

(1) P.N. Lebedev Physical Institute, Moscow, Russia (istomin@lpi.ru), (2) Astro Space Center, Puschino, Russia

It is shown that the slow glitches in the spin rate of the pulsar B1822-09 can be explained by the reconstruction of the neutron star shape, which is not matched with the star rotation axis. Owing to the evolution of the inclination angle, i.e. the angle between the rotation axis and the axis of the magnetic dipole, under the action of the braking torque, there appears the disagreement between the rotation axis and the symmetry axis. After the angle between the axis of symmetry and the axis of the rotation achieves the maximum value of $\alpha \simeq 2 \cdot 10^{-4}$ the shape of the neutron star becomes matching with the rotation axis. Such reconstruction is observed as the slow glitch.