

Radio pulsars in close pairs with neutron stars

A. V. Tutukov, A. I. Bogomazov

Sternberg Astronomical Institute (SAI MSU) (Moscow, Russia)

Our presentation has two aims. First, we would like to test our model of radio pulsar birth. In this model, any radio pulsar can be born only in a close binary system. Second, we would like to reconstruct the velocity distribution of newly born radio pulsars (i.e., the birth rate, not observed directly). We show that such a model of radio pulsar birth cannot explain the observed number of “radio pulsar + neutron star” systems and other binaries (which contain a radio pulsar) and, therefore, must be rejected. Also, we calculate velocity distributions of radio pulsars, binary and single ones, under different assumptions and make satisfactory estimations of some parameters of the evolution of binary stars.