THE COORDINATES ESTIMATION OF THE GALACTIC VERTEX BY MEAN OF KINEMATIC ANALYSIS OF THE RED GIANTS AND SUBGIANTS VELOCITY FIELD CONTAINING IN THE GAIA EDR3 CATALOGUE

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In this work we present the results of estimation coordinates XG and YG of the rotation center of the Milky Way galaxy (vertex) in a Cartesian galactic coordinate system and the Galactocentric distance to the Sun R0. Using method determination of the deviations from vertex by stellar velocity fields of some samples in the Galaxy plane the rotation center coordinates were estimated. The kinematic analysis of the spatial velocities of more than 3.8 million red giants and subgiants contained in the Gaia EDR3 catalogue was carried out. The rays emanating from the analyzed stellar samples and have directions to the vertex are intersecting at a certain geometrical place that probably is the center of the Galaxy rotation. In the current work, we used classical distances to stars based on trigonometric parallax (as $1/\pi$) and the distances estimated by Bayesian method (photogeometric). Using the different distances leads to a difference of estimations of stellar kinematics parameters of the Galaxy, as a consequence, give a difference of the coordinates of the center of Galaxy rotation.