

Astrometric parameters of stellar associations in the Cygnus regions using Gaia DR2.

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It is well known that kinematic measurements give an important key to evaluate the stellar membership of moving groups, e.g. OB associations.

We investigate the associations in the Cygnus area: CygOB1, CygOB2, CygOB3, CygOB4, CygOB7, CygOB8 and CygOB9 using proper motions and parallaxes. The astrometric data are obtained from the Gaia DR2 catalogue.

We apply a parametric model which analyses the proper motion distribution in each association region to find the association kinematic parameters and the stellar membership. Taking profit of the nature of Gaia DR2 data, we infer the distance to the associations from the weighed parallaxes of the proper motion members.

We find that the investigated associations, except Cyg OB4 and Cyg OB7, have similar mean proper motions and are located beyond 1 kpc. Cyg OB4 and Cyg OB7 are single associations situated at less than 1kpc.