

A Search for kinematical members of the Scorpio-Centaurus OB association

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Since the pioneering work of Blaauw (1946) little attention has been drawn to the kinematical study of the Sco-Cen association. The latest determinations of the convergent point and of membership were based on proper motions in the N30-system (Bertiau 1958) and in the FK4-system (Jones 1971), respectively. With a few exceptions only stars with spectral types earlier than A2 are known as members so far (see de Geus et al. 1989 for the latest photometric study and membership lists).

The PPM and the STARNET (Röser 1995) catalogues supply a larger reservoir of stars with accurate proper motions to search for new kinematical candidate members of the Sco-Cen association.

Applying different membership criteria such as the angle between the direction of the proper motion and the adopted convergent point, its error (dominated by the errors of the proper motions) and the consistency of the derived stream parallaxes based solely on the proper motion in right ascension or declination, we find about 400 candidate members in the PPM and about 1500 in STARNET in the region of Upper Scorpius. Some of the new candidate members are identified with pre-main-sequence stars detected by ROSAT.

Simultaneously, we derive in an iterative manner a new convergent point which deviates significantly from the old values.

References

- Bertiau, F. C., ApJ 128, 533, 1958
- Blaauw, A., Groningen Publ. 52, 1946
- de Geus, E. J., de Zeeuw, P. T. & Lub, J., A & A 216, 44, 1989
- Jones, D. H. P., MNRAS 152, 231, 1971
- Röser, S., IAU Symp. 172, eds. Arlot et al., 1995