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Spectroscopic and Photometric study of open cluster Trumpler 27

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Abstract :

Determination of distances to Galactic open clusters is an important way of understanding the nature of the Galactic spiral arms. One of the difficulties involved in accurate determination of Galactic distances is the determination of reddening to the cluster of study. We have done both spectroscopic and photometric study of an open cluster called Trumpler 27 in order to determine the reddening to the cluster and eventually find its distance from the sun. The cluster is young ~ 107 years. We have found that the cluster is ~ 3.7 kpc away from the sun. The open cluster has majorly massive stars and is located in the obscured part of our Galaxy at $l \sim 355.06$ and $b \sim -0.74$. At its age and the fact that it has O stars, B stars, Wolf Rayet stars and late type stars, the red supergiants makes it an interesting cluster to study.

Award :

Yes

Level :

MSc

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Paper :

Yes

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