

From star clusters to field populations: survived, destroyed and migrated clusters



Contribution ID: 8

Type: not specified

On the effects of unresolved binaries on the deduced total mass and stellar mass function of stellar clusters

Wednesday, 22 November 2023 10:05 (25 minutes)

Deducing the masses and mass functions of stellar clusters (SCs) is an important step to understanding their formation and evolution and to comprehending the formation of the Galaxy. This contribution explores, how unresolved binaries affect not only the deduction of these parameters for SCs, but also for their tails. If the binaries in SCs and their tails cannot be resolved, their masses are expected to be underestimated by up to 25%, while the power law index of the deduced mass function is underestimated by about 0.2. It is also found that since the Galactic field stars were born in SCs, populations of stars with large velocity dispersions would be expected to host larger binary fractions. However, the large scatter in the velocity dispersions makes it hard to observe this effect.

Primary author: WIRTH, Henriette

Presenter: WIRTH, Henriette

Session Classification: Cluster properties

Track Classification: Session 3