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Evolution of the Vertical Distribution of Open Clusters in the Milky Way

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The scale height of the spatial distribution of open clusters in the Milky Way exhibits a well known increase with age. This increase is usually attributed, in a vague way, to disc heating mechanisms similar to those that act on individual stars. In this contribution, we address the evolution of the scale height of open clusters from a different angle, as an effect of the disruption of clusters due to disc phenomena such as encounters with giant molecular clouds. We present a dynamical model that follows the orbits of open clusters and includes their disruption due to interactions with the disc. We show how the model reproduces the observed evolution of the open cluster vertical distribution remarkably well.

Primary authors: MOREIRA, Sandro (CENTRA - University of Lisbon); MOITINHO, André (CENTRA - University of Lisbon)

Presenter: MOREIRA, Sandro (CENTRA - University of Lisbon)

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