Massive stars in young VVV clusters

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The role of massive stars in the Galactic evolution is crucial. During their lifetime these stars change the kinematics around them through stellar winds, affect the formation of new stars, ionise and chemically enrich the media with the final supernova explosion. But the census of both massive stars and their host clusters is still poor. We expect that still ~100 of galactic massive stellar clusters remains unknown (Hanson & Popescu, 2008).

Trying to improve this census, we built an homogeneous sample of physically characterized clusters. This long-term effort (~5 years), combines near-infrared spectrophotometric data acquisition, reduction, and analysis. Currently we have a representative sample of 65 clusters, allowing the study of relations between clusters, the stellar content and our Galaxy. Some types of clusters included in our database are:

• **Wolf-Rayet clusters (Chené** *et al.* **2013, 2015; Borissova** *et al.* **2014)**: A total of 7 clusters with 9 WR (plus 3 WR/O If, 2 RSG & 1 BSG) objects have been discovered by our group. The clusters are young (2-7 Myr), moderately massive (800-3.000 $M_\odot$), highly obscured and compact (1-2 pc). We observe a (M_{CL}-m_{max}) relation, except for VVV CL041, which has a total mass of $3 \cdot 10^3 M_\odot$ and it hosts a WN8h object, with an initial mass of ~$100 M_\odot$. This object apparently would not follow a Kroupa's IMF with optimal sampling (Kroupa *et al.* 2013). A review of this object can be found in the article by Chené *et al.*, in this proceeding.

• **OB-stars clusters (Ramírez Alegría** *et al.* **2014, 2016)**: Six very young ($<$ 20 Myr, via main -Lejeune & Schaerer, 2001- and PMS -Siess *et al.* 2000- isochrone fitting), without signs of an evolved population clusters, characterized using VVV PSF-photometry & ISAAC-VLT spectroscopy. Their total masses follow a (M_{CL}-m_{max}) relation, similar to the presented by Weidner *et al.* (2013).

• **Clusters with MYSOs (Borissova** *et al.* **2016)**: Eight clusters with confirmed MYSO, selected using VVV (NIR) and GLIMPSE (MIR) photometry, and observed variability for some YSO. The variability was observed using the VVV multi-epoch survey.

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