Talk at Splinter Meeting

Splinter G

Stellar classification with photometric datasets

A. Becker[1], D.J. Bomans[1,2]

[1] *Astronomical Institute, Ruhr-University Bochum*
[2] *RUB Research Department Plasmas with Complex Interactions*

With the advent of the large photometric and spectroscopic surveys it became more and more important to develop strategies and methods to utilize of the large amount of data. One of the scopes is to classify the observed objects with respect to the existing classification systems. In the course of our Magellanic Clouds Massive Stars and Feedback Survey (MCSF) (Bomans et al., 2014) we gathered a spatial complete census of bright stars in the Small and Large Magellanic Cloud with high quality photometric measurements in broad- (u, B, V, R, I) and narrow- (Hα, [OIII], [SII]) band filters. To augment the wavelength coverage the data was matched with archival data from other surveys (e.g.: GALEX, 2MASS, Spitzer). Based on this sample we are developing a method to estimate spectral types of stars using only photometric data. To determine the feasibility we initially restricted ourself to the Magellanic Clouds and started a search on Wolf-Rayet stars in both galaxies. Now, as the proof of concept works we began to apply our method to other galaxies where the stellar population can be resolved.
Here we will show the current status of our project and discuss the future perspective and the challenges we are facing in the transfer of our method to other galaxies.