

Contributed Talk

Splinter Populations

SPECTACULAR DETAILS OF RESOLVED STELLAR POPULATIONS IN  
NGC300 REVEALED THROUGH THE COMBINATION OF ACS WITH  
MUSE

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Already a decade ago, the Advanced Camera for Surveys Nearby Galaxy survey Treasury (ANGST) has provided spectacular images and photometry of individual stars in nearby galaxies, with the expectation to gain deep insight into star formation histories and the chemical evolution of galaxies. However, the known limitations of photometry have remained an obstacle to fully exploit the angular resolution of HST in analyzing resolved stellar populations in galaxies such as the sculptor group galaxy NGC300. We have selected NGC300 as the target of our MUSE GTO program at the VLT to explore the potential of IFUs for crowded field 3D spectroscopy, utilizing PSF-fitting techniques. With the input of stellar centroids obtained from the ANGST catalogue, we are demonstrating that the PampelMuse PSF-fitting tool is capable to extract more than 500 spectra for individual stars of luminosity class I..III from a single MUSE pointing (1.5 h exposure time). These spectra are well deblended and allow for spectral type classification and the measurement of radial velocities. Next to stars of spectral types O..M, we find numerous carbon stars, blue emission line stars, LBV and symbiotic star candidates. The excellent image quality and sensitivity of MUSE has also enabled the discovery of extremely faint HII regions, planetary nebulae, supernova remnants, and substructure of the diffuse ionized gas (DIG).