



Contribution ID: 55

Type: **not specified**

Chemical composition of the young massive cluster NGC 1569-B

Tuesday 31 May 2022 12:00 (15 minutes)

We present a detailed chemical abundance analysis of the YMC NGC 1569-B. The host galaxy, NGC 1569, is a dwarf irregular starburst galaxy located 3.4 Mpc away. We derive abundances of the α , Fe-peak, and heavy elements. Abundance ratios were determined from the analysis of an optical integrated-light spectrum of NGC 1569-B, obtained with the HIRES echelle spectrograph on the Keck I telescope. The derived composition of NGC 1569-B resembles the stellar populations of the YMC NGC 1705-1, located in a blue compact dwarf galaxy. The two YMCs agree in α -elements and the majority of the Fe-peak elements except for Sc and Ba, which are extremely super-solar in NGC 1569-B and higher than in any YMC studied so far. The blue part of the optical spectrum of a young population is still a very challenging wavelength region to analyse with IL spectroscopic studies. This is due to the uncertain contribution to the light from blue supergiant stars, which can be difficult to disentangle from turn-off stars even if resolved photometry is available. We suggest that the comparison of model fits at different wavelengths offers a route to determining the red-to-blue supergiant ratio from IL spectroscopy.

Presenter: GVOZDENKO, Anastasia (Radboud University Nijmegen)

Session Classification: Parallel session