

MEGARA Early-Science results: Stellar populations in nearby galaxies.

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Abstract

Our objective is to target a well-defined sample of 150 nearby disks from the S4G survey to measure their light-weighted (1) stellar velocity ellipsoids, (2) stellar population ages and (3) abundances along the galaxies' major and minor axes using MEGARA spectroscopy in the CaT region at R=20000 and in multiple Low-resolution (R=6000) setups. In a first step we have obtained HR-I data on a subsample of S4G objects plus nearby galaxies (NGC7025, UGC10205, M32). In this poster different showcase examples are presented for the central (12.5 arcsec x 11.3 arcsec) stellar properties. MEGARA allows us to study the radial variation of the effective star formation history of the galactic disks and of its stellar abundances by means of comparing R=6k-20k data with the predictions of the galaxy evolution (backward) modeling of the effective (in-situ plus ex-situ) star formation history and chemical abundances. The deviations of our observations from the smooth inside-out growth predicted by the models would reflect the presence of ex-situ processes, such as radial migration and/or satellite accretion. (See poster).

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