

The Gaia-ESO Survey: the selection function of the Milky Way field stars

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Abstract

The Gaia-ESO Survey was designed to target all major Galactic components (i.e. bulge, thin and thick discs, halo and clusters), with the goal of constraining the chemical and dynamical evolution of the Milky Way. This paper presents the methodology and considerations that drive the selection of the targeted, allocated and successfully observed Milky Way field stars. The detailed understanding of the survey construction, specifically the influence of target selection criteria on observed Milky Way field stars is required in order to analyse and interpret the survey data correctly. We present the target selection process for the Milky Way field stars observed with Very Large Telescope/Fibre Large Array Multi Element Spectrograph and provide the weights that characterize the survey target selection. The weights can be used to account for the selection effects in the Gaia-ESO Survey data for scientific studies. We provide a couple of simple examples to highlight the necessity of including such information in studies of the stellar populations in the Milky Way.

Keywords

Techniques: spectroscopic, Surveys, Stars: general, Galaxy: evolution.