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Abstract STREGA (STRucture and Evolution of the Galaxy) is an ongoing VLT Survey Telescope Guaranteed Time survey, aimed at investigating the mechanisms of formation and evolution of the Galactic Halo on an area of about 150 square degrees. The core programme searches for the signatures of interaction between selected stellar systems and the Galactic Halo and a complementary part is focussed on exploring the southern portion of the Fornax Stream. The adopted stellar tracers are variable stars and main sequence turn-off stars. We present an overview of the survey, the first results, and the perspectives.

1 Introduction

The outer regions of the Galactic halo seem to be quite clumpy (e.g. Vivas & Zinn, 2002; Newberg et al., 2002), supporting theories based on the hierarchical formation of structures in a CDM cosmological scenario. The most known examples include: i) the observed merging of Sagittarius with the Galactic halo and its associated stream; ii) the stellar over-density in the Canis Major region; iii) peculiar Galactic Globular Clusters (GGCs), with tidal tails or suspected halos; iv) ultra-faint satellites of the Milky Way (MW) discovered from analysis of the Sloan Digital Sky Survey (SDSS). The distribution of MW dwarf spheroidal galaxies (Sphs) and GGCs along planar alignments (see e.g. the Vast Polar Structure identified by Pawlowski et al. 2012 MNRAS) suggest the presence of distinct orbital planes that might be the result result of the disruption of larger galaxies. Interestingly, similar phenomena are also observed in M31 (e.g. Ibata et al. 2013 Nature). In this context the the STREGA survey uses part of the VST Guaranteed Time Observation (GTO) allocated by ESO to the Italian Istituto Nazionale di Astrofisica (INAF) in return for the building of the telescope, to investigate the Galactic halo formation mechanisms.

2 The STREGA survey

The core programme of STREGA (P.I.: M. Marconi/I. Musella; see also Marconi et al., 2014a, 2014b) is aimed at finding and investigating stellar overdensities (tidal tails and/or haloes) around selected dSphs and GGCs up to 23 tidal radii. In particular the target systems include: Fornax and Sculptor (38 fields), Sextans (13 fields), Phoenix (3 fields), Cen and NGC 6752 (37 and 36 fields, respectively), Pal 3 (3fields) and Pal 12 (2 fields). These targets are shown in Figure 1 (blue and magenta symbols for dSphs and GGCs, respectively) in equatorial coordinates. The adopted stellar tracers of the searched overdensities are mainly RR Lyrae variables stars and Main-Sequence (especially Turn off) stars: the former are bright and easily to be identified thanks to their characteristic variability; the latter are fainter by about three magnitudes than RR Lyrae stars but are two orders of magnitude more abundant. Being a survey STREGA has got a multipurpose character and there are a number of secondary objectives. Some of them are direct byproducts, e.g. the test of Galactic models through the comparisons of observed star counts with the predicted contribution of the various Galactic components. Other are obtained by slightly changing the strategy, e.g. the investigation of White Dwarf and Interacting Binary Populations as a function of the Galactic latitude in selected fields.

3 Why VST?

VST with its large field (1 sq. deg.) and its high resolution (0.21 arcsec/px) is the ideal instrument for this type of investigations

3.1 Subsection Heading

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3.1.1 Subsubsection Heading

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1. Livelihood and survival mobility are oftentimes outcomes of uneven socioeconomic development.
 - a. Livelihood and survival mobility are oftentimes outcomes of uneven socioeconomic development.
 - b. Livelihood and survival mobility are oftentimes outcomes of uneven socioeconomic development.
2. Livelihood and survival mobility are oftentimes outcomes of uneven socioeconomic development.

Subparagraph Heading

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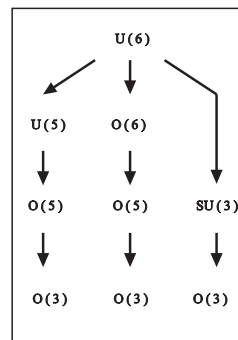


Fig. 1 If the width of the figure is less than 7.8 cm use the `sidecaption` command to flush the caption on the left side of the page. If the figure is positioned at the top of the page, align the sidecaption with the top of the figure – to achieve this you simply need to use the optional argument `[t]` with the `sidecaption` command

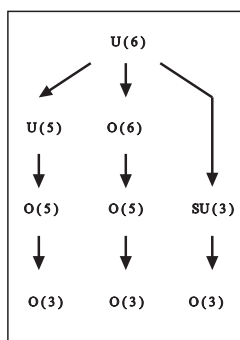


Fig. 2 If the width of the figure is less than 7.8 cm use the `sidecaption` command to flush the caption on the left side of the page. If the figure is positioned at the top of the page, align the sidecaption with the top of the figure – to achieve this you simply need to use the optional argument `[t]` with the `sidecaption` command

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- Livelihood and survival mobility are oftentimes outcomes of uneven socioeconomic development, cf. Table 1.
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Run-in Heading Boldface Version Use the \LaTeX automatism for all your cross-references and citations as has already been described in Sect. 3.

Run-in Heading Italic Version Use the \LaTeX automatism for all your cross-references and citations as has already been described in Sect. 3.

Table 1 Please write your table caption here

Classes	Subclass	Length	Action Mechanism
Translation	mRNA ^a	22 (19–25)	Translation repression, mRNA
Translation	mRNA cleavage	21	mRNA cleavage
Translation	mRNA	21–22	mRNA cleavage
Translation	mRNA	24–26	Histone and DNA Modifica

^a Table foot note (with superscript)

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Theorem 1. *Theorem text goes here.*

Definition 1. Definition text goes here.

Proof. Proof text goes here. \square

Paragraph Heading

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Definition 2. Definition text goes here.

Proof. Proof text goes here. \square

Acknowledgements If you want to include acknowledgements of assistance and the like at the end of an individual chapter please use the `acknowledgement` environment – it will automatically render Springer's preferred layout.

Appendix

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$$a \times b = c \tag{1}$$

References

References may be *cited* in the text either by number (preferred) or by author/year.² The reference list should ideally be *sorted* in alphabetical order – even if reference numbers are used for their citation in the text. If there are several works by the same author, the following order should be used:

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³ Always use the standard abbreviation of a journal’s name according to the *ISSN List of Title Word Abbreviations*, see <http://www.issn.org/en/node/344>

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