

# The Gaia-ESO Survey – May 2012 progress report

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## 1. Survey observations progress

Five observing runs have now been completed, after first light on 31-12-2011, for a total of 25 nights. An additional 20N over four runs are scheduled in P89 (see WG0 wiki for the exact dates). About 60-70 % of the observing time has been useful, with good seeing and transparency conditions most of the time. The remaining time was lost mainly due to bad weather. Apart from a few minor glitches, no major technical problems were encountered.

A large range of science and calibration targets have been deliberately observed in these first runs. Four clusters have now been completed: namely,  $\gamma$  Velorum, Trumpler 20, NGC3293, and Chamaeleon I, covering already a wide range of cluster parameters. MW observations have focused on covering the widest range of target fields, from the outer thick disk to the inner Galaxy, from the Galactic pole to relatively high extinction low-latitude fields. Our early ambitions are both to deliver a range of data for early science, and to ensure our target selection is optimised across the wide parameter space and range of stellar populations we will observe. Several calibration targets have been observed, including benchmark stars, COROT fields, and globular clusters. The list of observed targets and OBs, along with some supporting information, is available and regularly updated on the WG0 and WG5 wiki pages.

## 2. Survey data processing progress

All the WG teams are working hard towards our first end-to-end Survey implementation with real data. This activity tests all the complexities of the Survey, from identifying target stars, through observing, data reduction, spectrum analysis, parameter and abundance determinations and homogenization onto a single scale, finally putting all the information you will need into an accessible archive. It means managing real data files, and transferring information to the right place at the right time, to deliver the information needed for science verification analysis. MW and cluster target selection and OB preparation are generally working well. Reduced UVES and GIRAFFE datasets from the first three runs have already been distributed to the spectrum analysis teams, for first look analysis. Whilst a few format

and technical issues have been identified, and are still pending, the analysis teams already started looking at the spectra and providing feedback to the data reduction teams.

Communication and interface issues are being identified and solved.

Up to date information on the status of the data processing, and delivered signal-noise and sample statistics, will be coming available soon on the Survey wiki, to assist planning for science verification and early science analyses. Remember to sign up for your science interests on the wiki, projects pages.

### **3. OCA-Nice spectrum analysis meeting**

On April 18 and 19 a joint meeting of GIRAFFE and UVES FGK Spectrum Analysis Working Groups was organized by Alejandra Recio-Blanco at the Observatoire de la Cote d'Azur, in Nice. The meeting was financially supported by the GREAT-ESF RNP.

With more than 50 participants, the meeting was very successful. On the morning of the first day general presentations on the Survey status, reduction, radial velocity, and classification pipelines, model atmospheres, synthetic spectra were given. The remaining time was dedicated to the presentations from the individual nodes and to discussion. Much progress has been achieved in several aspects and by many teams –significantly, a preliminary analysis of the first Survey spectra was reported by some of the groups. However, several already known issues still need to be solved and new ones were identified. Efforts and new tests will be done in the next weeks to clarify all these. Timescales for the delivery of the analysis products for the first three runs were identified, with the ambition to be ready to start the science verification and early science phase in Autumn. This should apply not only to the FGK spectrum analysis products, but to the products from the other spectrum analysis WGs as well. We are all busy defining and implementing the various definition, format and access issues needed to allow that to happen.

The talks presented at the meeting can be downloaded from the Great wiki pages, [http://great.ast.cam.ac.uk/Greatwiki/WP10\\_WP11MeetingNice2012](http://great.ast.cam.ac.uk/Greatwiki/WP10_WP11MeetingNice2012)

A summary of the discussion and meeting outcome is also available in the same wiki page.

### **4. Science verification and early science– update**

We recall that the wiki is the place where proposals for science verification projects and early-science draft papers should be posted. As soon as data reach science verification quality, the Co-PIs will circulate the news to all Survey Co-Is, together with up-dated information on how to access the archive.

Indeed many very interesting projects have already been posted, covering almost all the 14 different science categories. Keep posting your proposed projects to the wiki or add your name to the already posted projects, if you are interested.

We wish to encourage early science in as many fields as is possible.

We note again that there are no “protected” science topics, and that registering an interest in a subject, or submitting a draft paper, does not preclude other analyses of the same topic or data by other groups of Co-Is. Scientific collaboration is desirable, but complementary analyses are also encouraged.

Science analysis can start as soon as data are available in the Edinburgh archive (see below).

## **5. Survey archive questionnaire**

A draft version of the GES archive which WFAU (Edinburgh) is to set up under the GES WG/18 work is now available. This comprises the tables that it will contain (though they are empty, of course) and WG18 would like to get comments on it from the Consortium. To this end we've drafted a message, appended below, soliciting comments. Please read the message below and send comments to WG18 ([ges-support@roe.ac.uk](mailto:ges-support@roe.ac.uk)).

### Draft GES Survey Archive for Comments

Dear Colleague,

Working Group 18 of the GES Consortium is charged with setting up a data archive to store the results from the GES survey. We have now set up a first draft of this archive and would like to invite you to comment on it.

The draft archive includes the tables that we think are required and the inter-relations between them. The tables are, of course, currently empty (we do not yet have any data to ingest) and we will revise and add to the columns in the tables once we receive example data. Nonetheless the basic structure of the archive (the tables and their inter-relations) is present.

A set of Web pages from which the archive can be explored, and associated explanatory material, are available from URL:

<http://surveys.roe.ac.uk/ges>

We would be most grateful if you could have a look at these pages and let us have any comments, suggestions, corrections etc. that you might have.

We are particularly keen to ensure that the design of the archive will conveniently support the use that you wish to make of it. Please send any comments to e-mail address:

[ges-support@roe.ac.uk](mailto:ges-support@roe.ac.uk)

All responses will be gratefully received. Many thanks in advance for your assistance.

With best regards,

Nigel Hambly,

Clive Davenhall,

for the GES Consortium Working Group 18 (Survey Archive and Data Centre)

## 6. Cambridge database

The day-to-day heart of the Survey data handling is the Cambridge database, operated by WG17. The data centre is like the central hub of a wheel, supporting all other WG activities. All processed data are released from here to the spectrum analysis teams, and all analysis results are collected here, ready for other WGs. Perhaps the primary lesson learned from operation so far is the critical need to have all data in rigidly defined formats, with Jim Lewis leading work on these definitions. These will not be ideal for every use, so convenient software tools, allowing identification and extraction of data of specific interest, are also being developed. As the Survey develops into routine operation, the Cambridge database will also provide useful diagnostic and target information with the data files. Until that system is developed, supplementary information is available on the wiki.

## 7. Volunteers: WG5; Logo and website; All hands meeting

**WG5** - Calibration work is essential for the success of the Survey, and will directly produce many interesting science papers. Currently there are not enough resources in WG5 to take care of the many, different tasks. Volunteers who would be willing to help are needed. They can contact Elena Pancino (WG5 lead) and discuss their possible contribution.

**Gaia-ESO Website** - We have registered the Survey web name, [www.Gaia-ESO.eu](http://www.Gaia-ESO.eu), but the web pages are not yet written. Volunteers to assist with this are very welcome!

**Survey logo** - A Survey logo has not yet been created –brilliant ideas on this would be very much welcome as well.

**All hands meeting** - We feel that end of 2012 is the right time to have the first Gaia-ESO Survey all-hands meeting, where the focus will be on science. We would be happy to receive applications for hosting and organizing this meeting.

## 7. Other issues

All the Survey policy, progress, and activity is recorded on the Survey wiki, available at <http://great.ast.cam.ac.uk/GESwiki/GESHome> An account there will keep you up to date.

The wiki makes available on its front page the several policy documents regarding Survey publication policy, including the requirements on co-authorship; team membership; use of private supplementary data; recording of planned science projects; and the Survey Management Plan, agreed between the ESO Survey Team and the Co-PIs. By far the most effective way to find out the very many activities underway inside the Gaia-ESO Survey project is to read the Survey Management Plan, and to look on the wiki WG pages. Please read all these documents carefully. If you have any questions left, we would be happy to clarify.

Survey membership: while we have received formal applications from several people, many others did sign up to WG wiki pages without being officially Survey members. Project membership policy is described in the membership document available on the wiki. Please remind your colleagues who are not yet formal members to apply, if they wish to become CoIs of the project.

Builders: the current list of Survey Builders includes the steering committee, all WG coordinators, people responsible for running the UVES and GIRAFFE reduction pipelines, plus Vanessa Hill, who is member of the WG10-WG11 coordination group. This list may be updated following written request from WG leads and approval from the SC.

Next Steering Committee meeting will take place in Arcetri on May 8. If you have any issues you would like to bring up, please let us know. Agenda for the meeting will be available on the Survey wiki soon.

Best regards

Gerry Gilmore & Sofia Randich