THE SONG DATA ARCHIVE

soda.phys.au.dk

SONG Data Search

Object

Object name: mu Her

Projects

Stellar properties

Temporal constraints

Data types

Instrument

Telescope:

Site:

SONG Spectrograph:

Iodine: Iodine cell2

Slit:

Files

Search

Deselect all

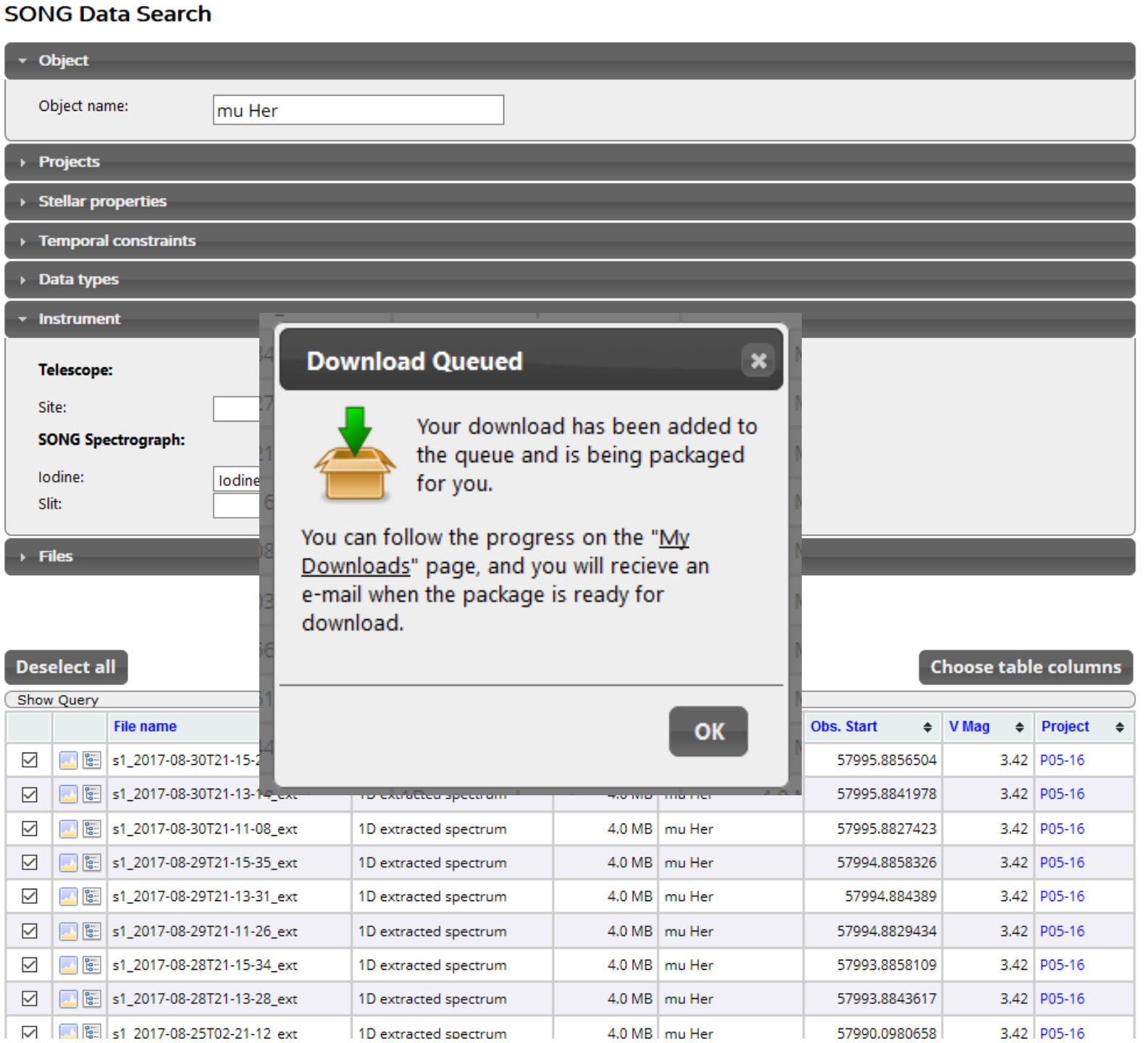
Choose table columns

Show Query

		File name	Data Type	File size	Object name	Obs. Start	V Mag	Project
☑		s1_2017-08-30T21-15-20_ext	1D extracted spectrum	4.0 MB	mu Her	57995.8856504	3.42	P05-16
☑		s1_2017-08-30T21-13-14_ext	1D extracted spectrum	4.0 MB	mu Her	57995.8841978	3.42	P05-16
☑		s1_2017-08-30T21-11-08_ext	1D extracted spectrum	4.0 MB	mu Her	57995.8827423	3.42	P05-16
☑		s1_2017-08-29T21-15-35_ext	1D extracted spectrum	4.0 MB	mu Her	57994.8858326	3.42	P05-16
☑		s1_2017-08-29T21-13-31_ext	1D extracted spectrum	4.0 MB	mu Her	57994.884389	3.42	P05-16
☑		s1_2017-08-29T21-11-26_ext	1D extracted spectrum	4.0 MB	mu Her	57994.8829434	3.42	P05-16
☑		s1_2017-08-28T21-15-34_ext	1D extracted spectrum	4.0 MB	mu Her	57993.8858109	3.42	P05-16
☑		s1_2017-08-28T21-13-28_ext	1D extracted spectrum	4.0 MB	mu Her	57993.8843617	3.42	P05-16
☑		s1_2017-08-25T02-21-12_ext	1D extracted spectrum	4.0 MB	mu Her	57990.0980658	3.42	P05-16

AARHUS UNIVERSITY STELLAR ASTROPHYSICS CENTRE

soda.phys.au.dk



AARHUS UNIVERSITY STELLAR ASTROPHYSICS CENTRE

SONG DATA ARCHIVE

Serves SONG data to the community.

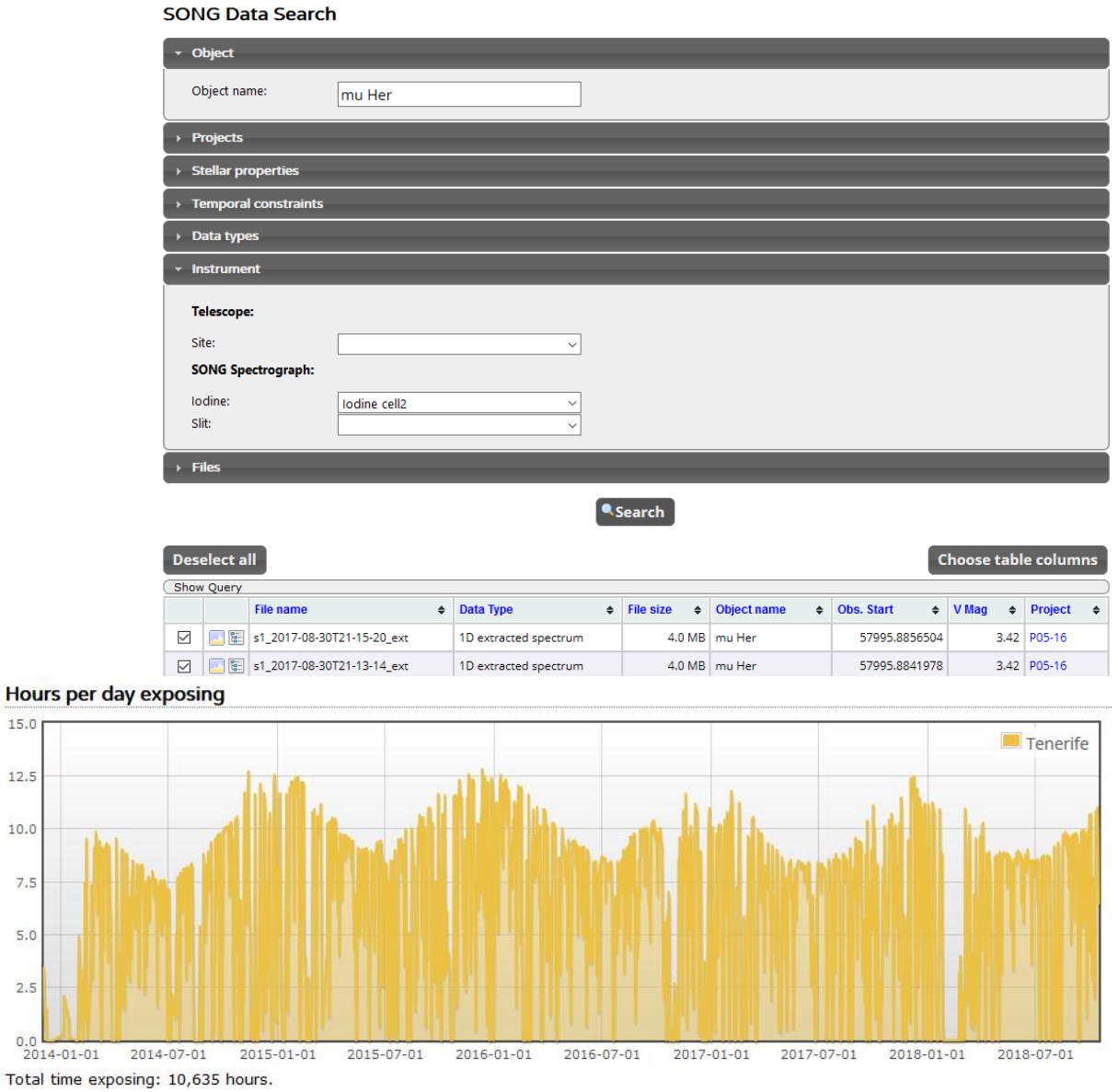
Documentation on data products.

Allows users to define observations (Phase 2).

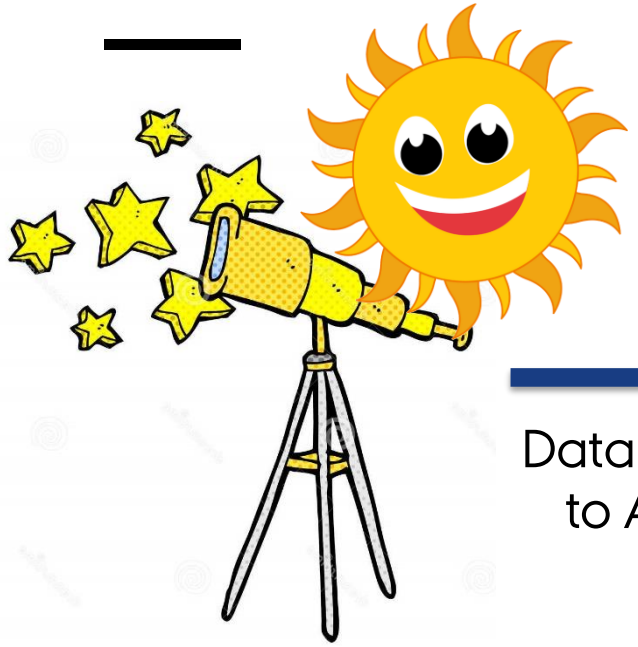
Facilitates the SONG Publication Review.

Live statistics of SONG observations.

... and more to come...



DAILY OPERATIONS

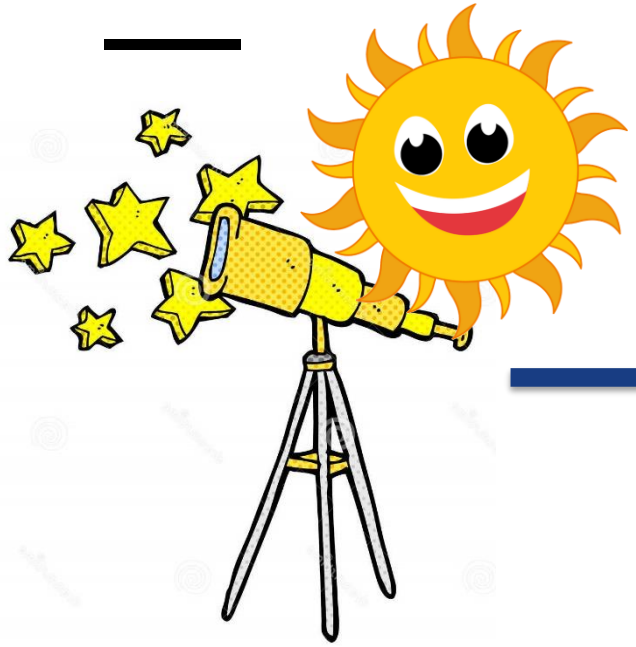


Data Transfer
to Aarhus


[170.851560] IPv6: ADDRCONF(NETDEV_CHANGE): eth0: link becomes ready
[171.707928] bnx2 0000:02:00.1 eth3: NIC Copper Link is Up, 1000 Mbps full du
lex
[171.805823] IPv6: ADDRCONF(NETDEV_CHANGE): eth3: link becomes ready
SMC
APC

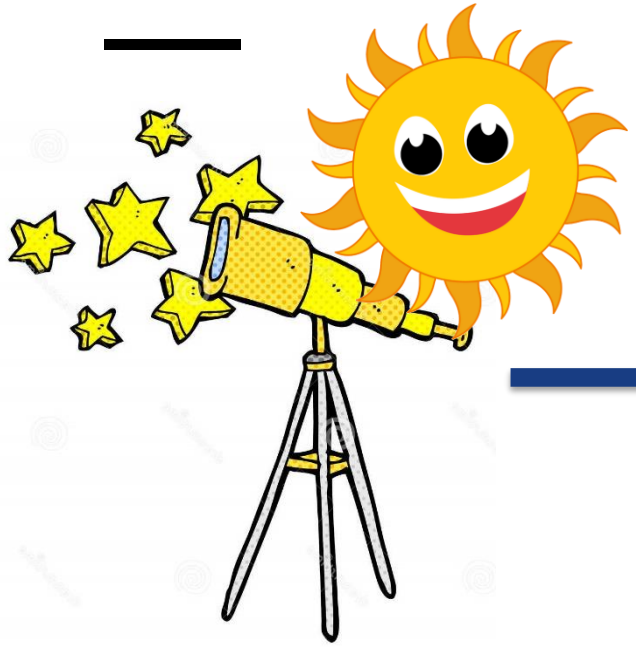

APC

DAILY OPERATIONS



Data Ingest
to database

DAILY OPERATIONS

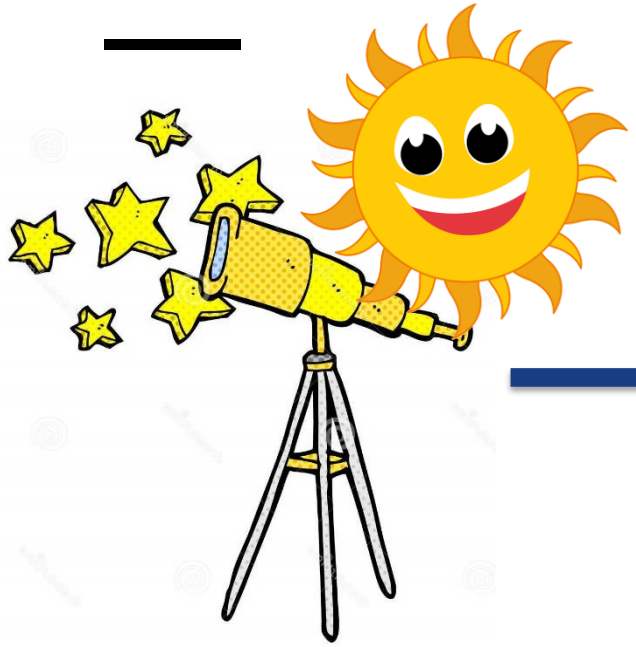


Data Ingest
to database

- Basic checks of files.
- Link files to targets, proposals, calibration files etc.
- Add or fix FITS headers.
- Run extra checks before overwriting original files.

- Make files available on SODA.

DAILY OPERATIONS



Data Ingest
to database

Less than 24 hours!

- Basic checks of files.
- Link files to targets, proposals, calibration files etc.
- Add or fix FITS headers.
- Run extra checks before overwriting original files.

- Make files available on SODA.

MORE NODES IN SONG?

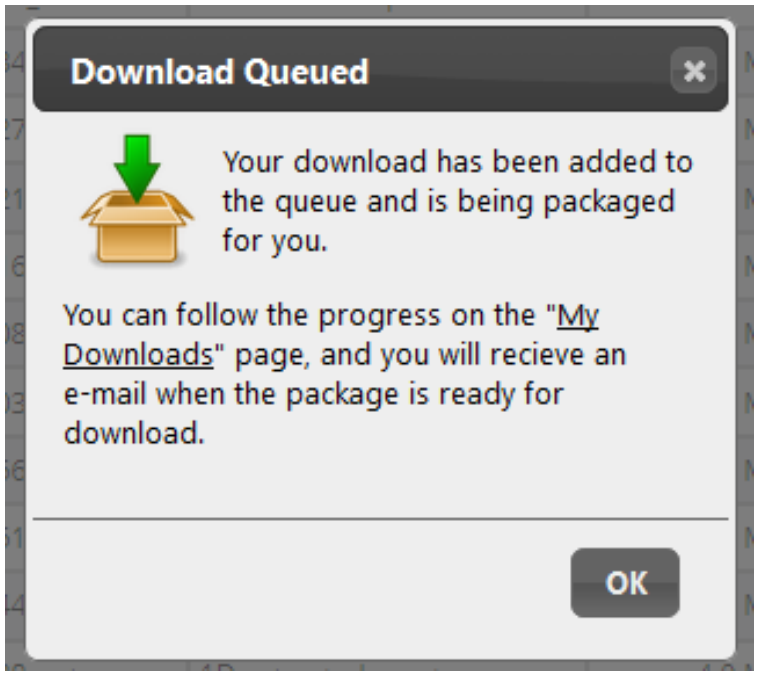
MORE NODES IN SONG?

Less than 24 hours!

BUT SOMETHING IS STILL MISSING

On SODA you can get the individual (reduced) spectra.

BUT you can not find the extracted radial velocities!



We are working on incorporation the radial velocity pipeline into SODA, so when you request the radial velocities, they are automatically calculated.

Will be incorporated into the existing Data Search interface.

SONG PROPOSAL SUBMISSION

New system for uploading SONG proposals

SONG Observing Proposal Submission

My proposals

New Proposal

Period	Title	Last Updated	
8-28	sfdsfsddsf	8th August 2018 02:14	Edit
8-1	My awesome project	18th October 2018 17:35	Edit

Submitted proposals

Period	Title	Submitted	
8-30	Asteroseismic characterization of the brightest red giants	28th September 2018 15:50	PDF

SONG PROPOSAL SUBMISSION

SONG Proposal

Any questions regarding the proposal procedure may be submitted to songprop@phys.au.dk.

Title and abstract

Title of proposal

Asteroseismic characterization of the brightest red giants

Abstract:

We propose observations of the very bright K giants (α Aur), Alphard (α Hya), Algieba (γ^1 Leo) and Dubhe (α UMa). Their brightness and the long period of their oscillations (ν_max $\sim$ 4, 6 and 20μHz, respectively) means they require relatively short and sparse observations, making them ideal targets for a filler programme. We will model the time series using Continuous Auto-Regressive Moving Average (CARMA) models to determine ν_max, as previously demonstrated for SONG observations of Aldebaran. As the time series increase in length, we will be able to determine the frequency spacing and individual modes. With complementary observations, these targets will become benchmarks for testing asteroseismic methods for red giant stars. We note that Algieba is known to host at least one exoplanet, with a second planet suspected, but unconfirmed.

90 characters left.

Co-investigators and affiliations

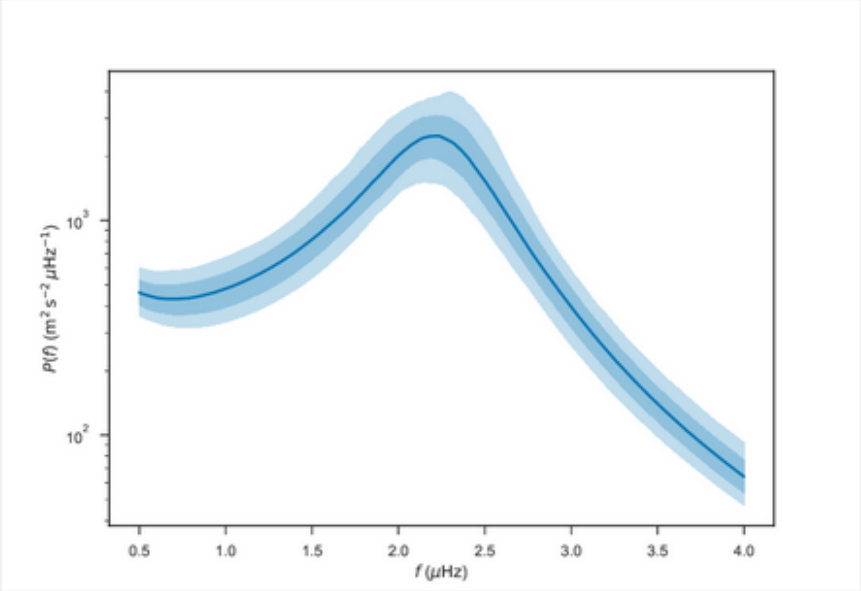
Co-investigators and their affiliations should be entered using a format where numbers in brackets are written after the names to affiliate them with the appropriate institution. The number for each institution must be stated before the name of the institution.

Example: Co-investigators:

```
Right, M. R. (1)
Maybe, M. S. (3)
Wrong, D. R. (2,3)
```

SONG PROPOSAL SUBMISSION

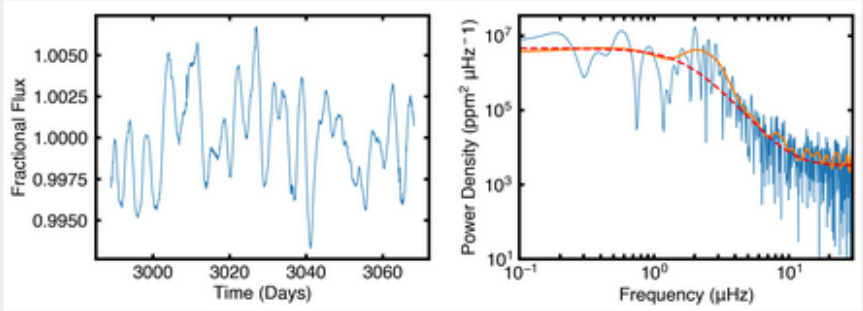
Figures



Caption:

CARMA-derived power spectral density from archival and SONG RV observations of Aldebaran, showing the clear peak at around 2\,μHz. The dark and light shaded regions represent $1\,\sigma$~and $2\,\sigma$ posterior probability contours. Figure from Farr et al. (2018, ApJL, in press).

Delete figure



Caption:

K2 lightcurve (left) and power spectrum (right) of Aldebaran. The red dashed line shows the background model, and the orange line is a heavily smoothed version of the power spectrum used to measure the frequency of maximum power. Figure from Farr et al. (2018, ApJL, in press).

Delete figure

SONG PROPOSAL SUBMISSION

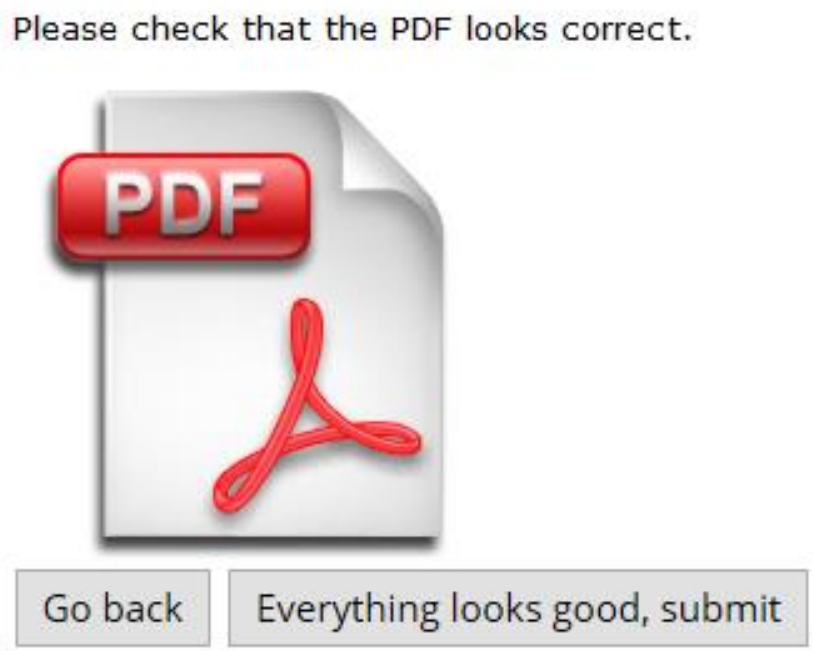
No more annoying LaTeX compiling!

Compiling your proposal... Please wait...

SONG PROPOSAL SUBMISSION

No more annoying LaTeX compiling!

Compiling your proposal... Please wait...



AUTOMATIC PROPOSAL GENERATION

P08-??

Stellar Observations Network Group (SONG)
APPLICATION FOR OBSERVING TIME
OBSERVING PERIOD 8 : 1^{st} October 2018 – 1^{st} April 2019

Asteroseismic characterization of the brightest red giants

Rasmus Handberg, Stellar Astrophysics Centre, DK[1]

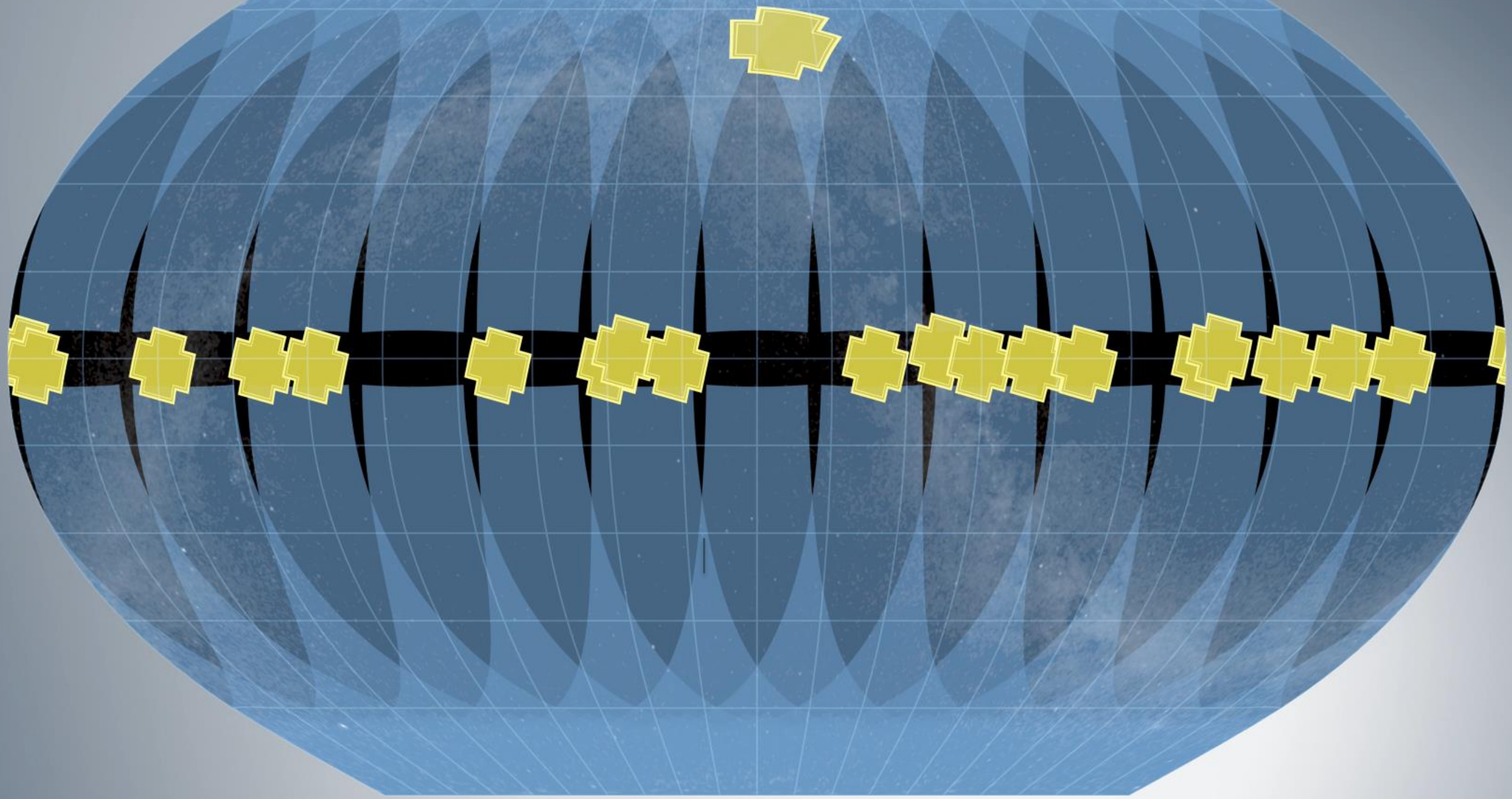
B. J. S. Pope[1], F. Grundahl[2], G. R. Davies[3,2], W. M. Farr[4], T. R. Bedding[5,2]

We propose observations of the very bright K giants (α Aur), Alphard (α Hya), Algieba (γ^1 Leo) and Dubhe (α UMa). Their brightness and the long period of their oscillations ($\nu_{\rm max} \sim 4$, 6 and 20μHz, respectively) means they require relatively short and sparse observations, making them ideal targets for a filler programme. We will model the time series using Continuous Auto-Regressive Moving Average (CARMA) models to determine $\nu_{\rm max}$, as previously demonstrated for SONG observations of Aldebaran. As the time series increase in length, we will be able to determine the frequency spacing and individual modes. With complementary observations, these targets will become benchmarks for testing asteroseismic methods for red giant stars. We note that Algieba is known to host at least one exoplanet, with a second planet suspected, but unconfirmed.

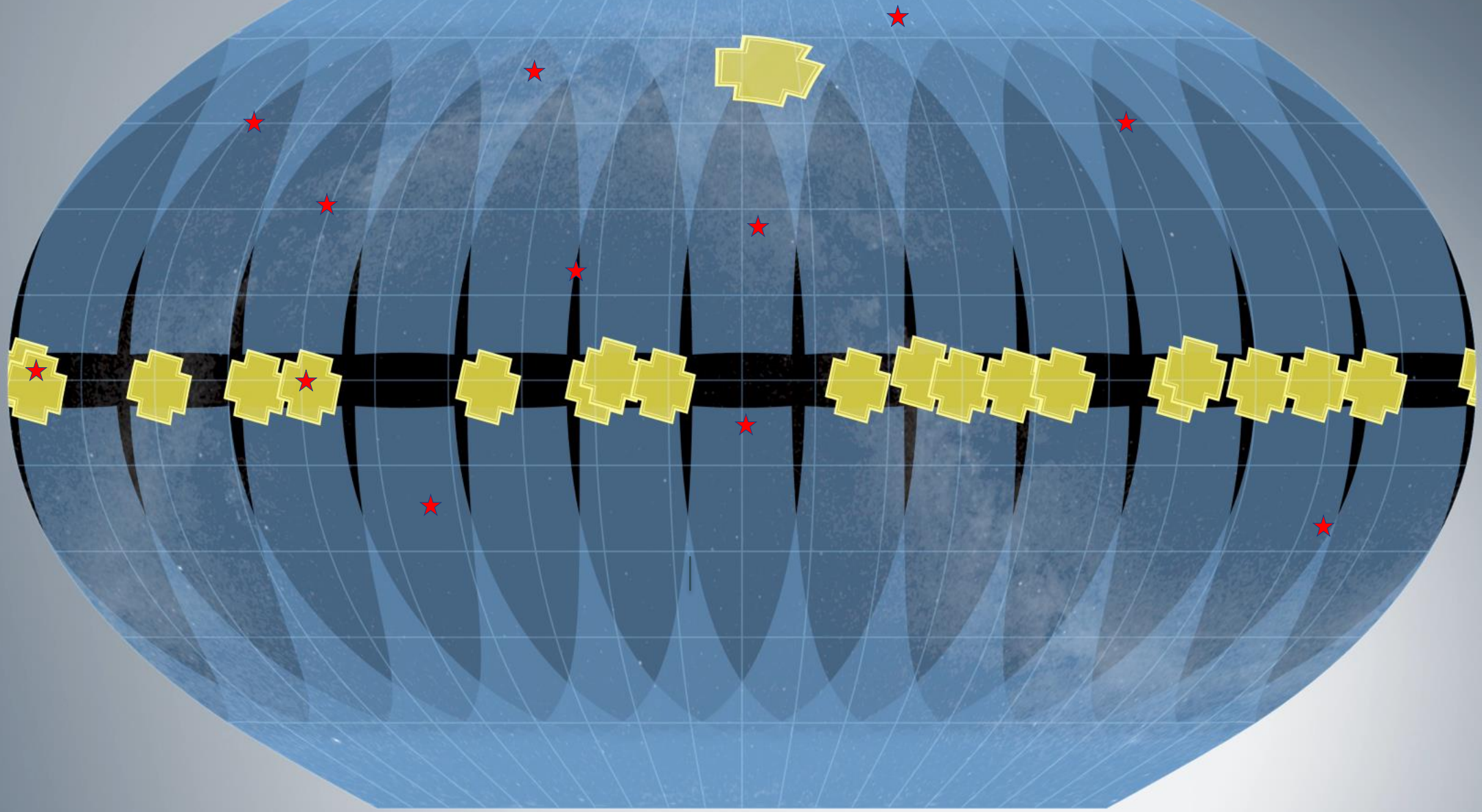
(1) NYU.
(2) SAC.
(3) Uni. B'ham.
(4) Stony Brook Uni, NY.
(5) USyd.

(SAC, Aarhus University)

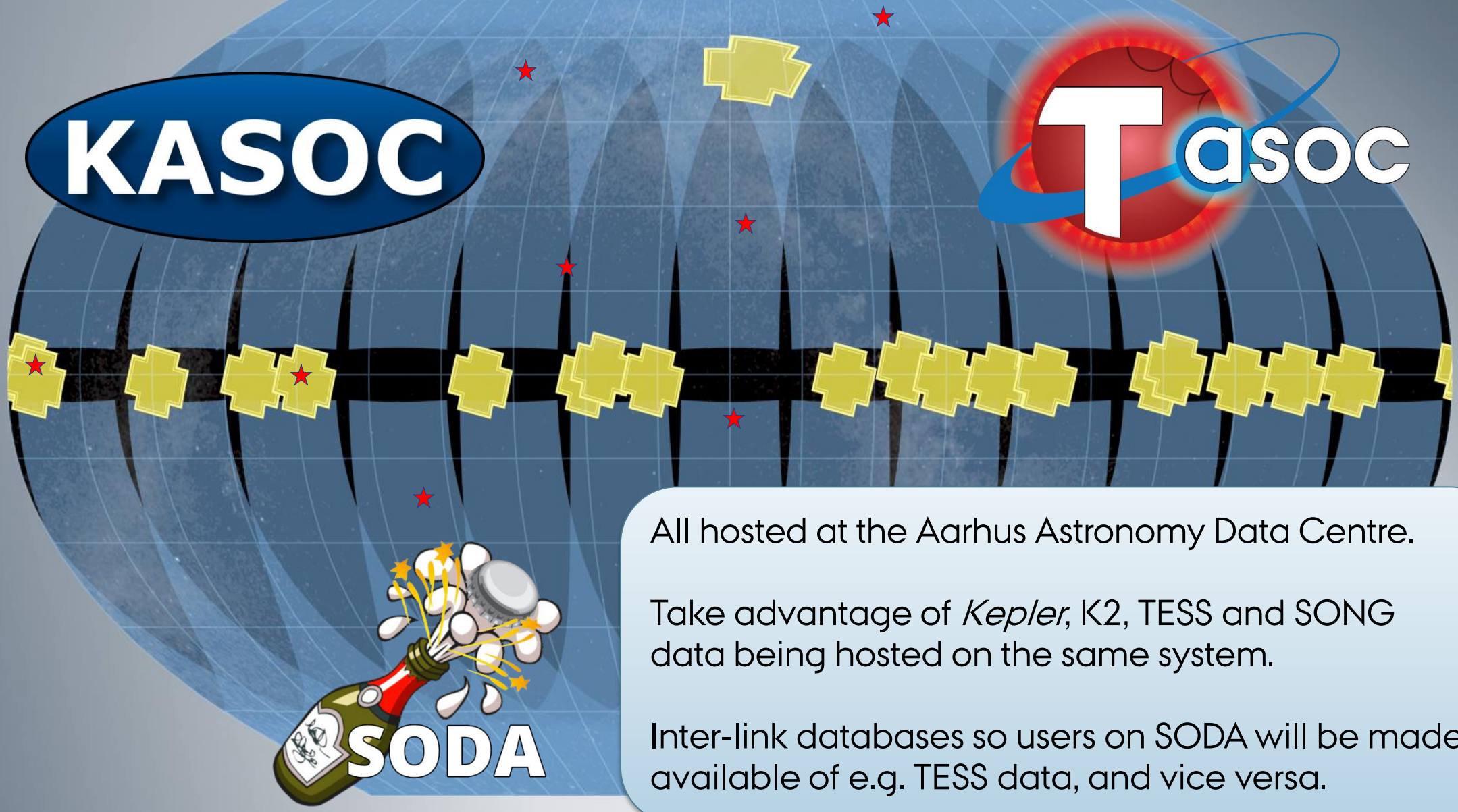
THE SONG-TESS-KEPLER CONNECTION



THE SONG-TESS-KEPLER CONNECTION



THE SONG-TESS-KEPLER CONNECTION



All hosted at the Aarhus Astronomy Data Centre.

Take advantage of *Kepler*, K2, TESS and SONG data being hosted on the same system.

Inter-link databases so users on SODA will be made available of e.g. TESS data, and vice versa.

SUMMARY

- SONG Data Archive daily operations almost fully automated.
- Work in progress on getting radial velocities into SODA.
- New SONG Proposal system – no more annoying LaTeX compiling!
- Linking together *Kepler*, K2, TESS and SONG databases so users will be made aware of overlapping observations.

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