

SUNRISE-III: OVERVIEW & STATUS

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 SUNRISE III CONSORTIUM



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S.K. Solanki, A. Lagg + MPS Team

Max Planck Institute for Solar System Research, Germany

PM, Telescope, PFI
infrastructure, ISLiD, ICS, SUSI



T. Berkefeld + KIS Team

Leibniz Institut für Sonnenphysik, Germany

CWS



P. Bernasconi + APL Team

Applied Physics Laboratory, Johns Hopkins University, USA

Gondola, Interface to CSBF



V. Martinez Pillet

National Solar Observatory, Boulder, USA

DKIST, Science



J.C. del Toro-Iniesta + TuMag Team

IAA, INTA, UPM, Univ. Valencia, IAC, Univ. Barcelona, Spain

TuMag



Y. Katsukawa + NAOJ Team

National Astronomical Observatory of Japan

SCIP

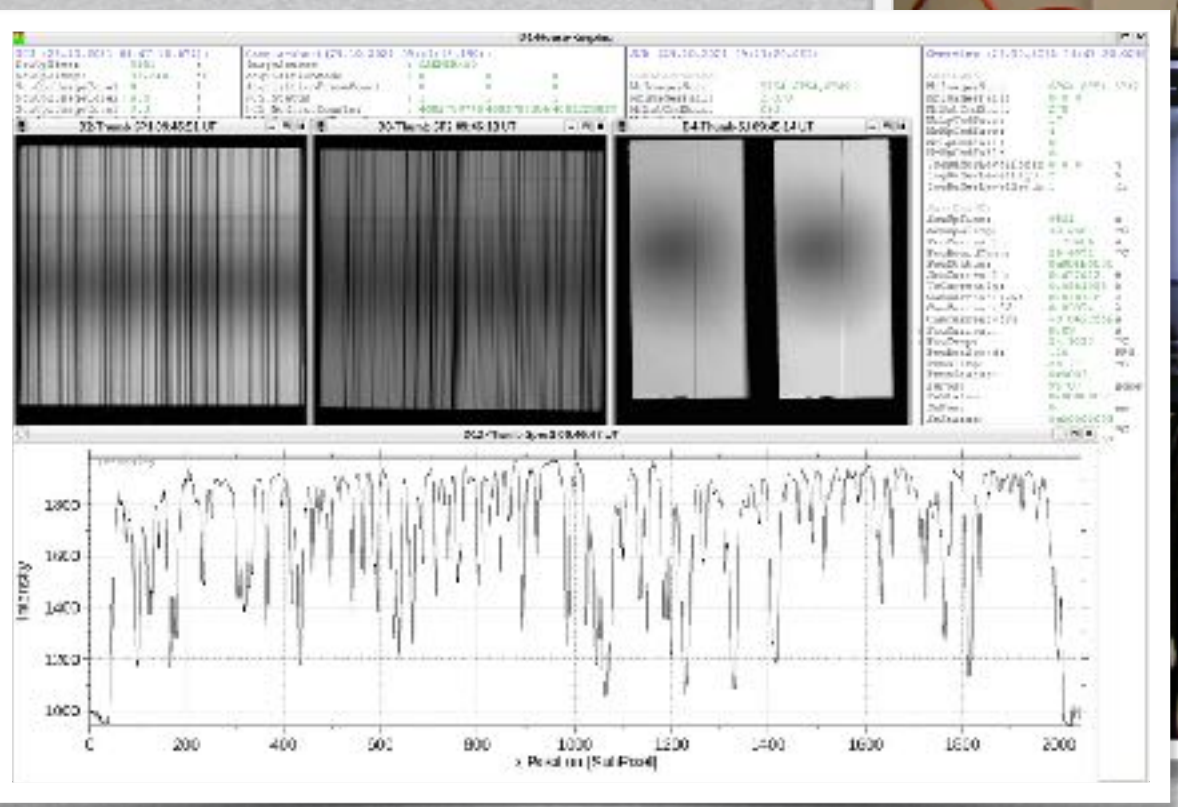


Amy Canfield

Sunrise III Mission Manager at NASA BPO

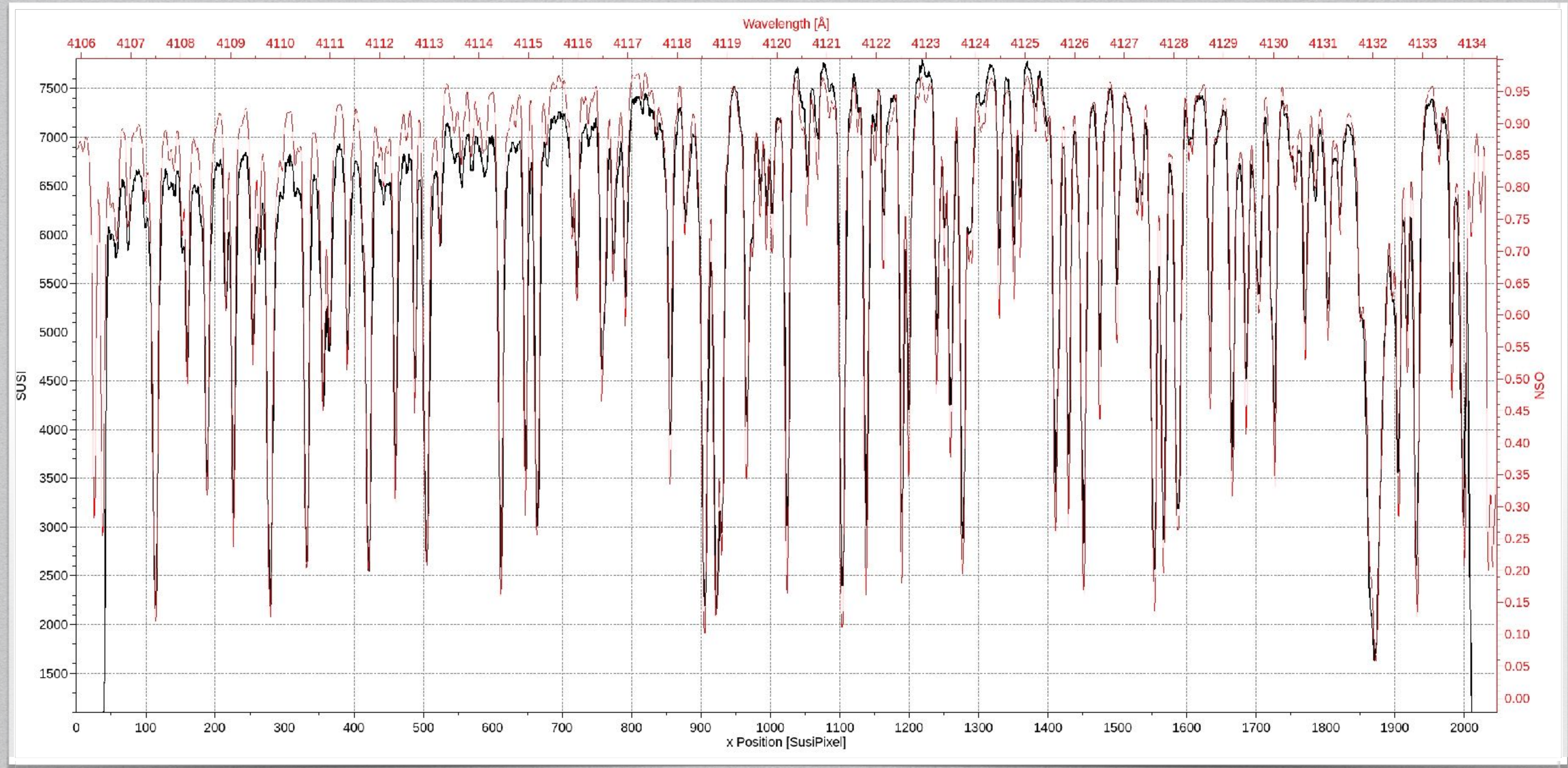
Balloon

- Successful hangtest
- Excellent pointing stability
- First solar spectra



Sunrise III Hangtest, Oct/Nov 2021

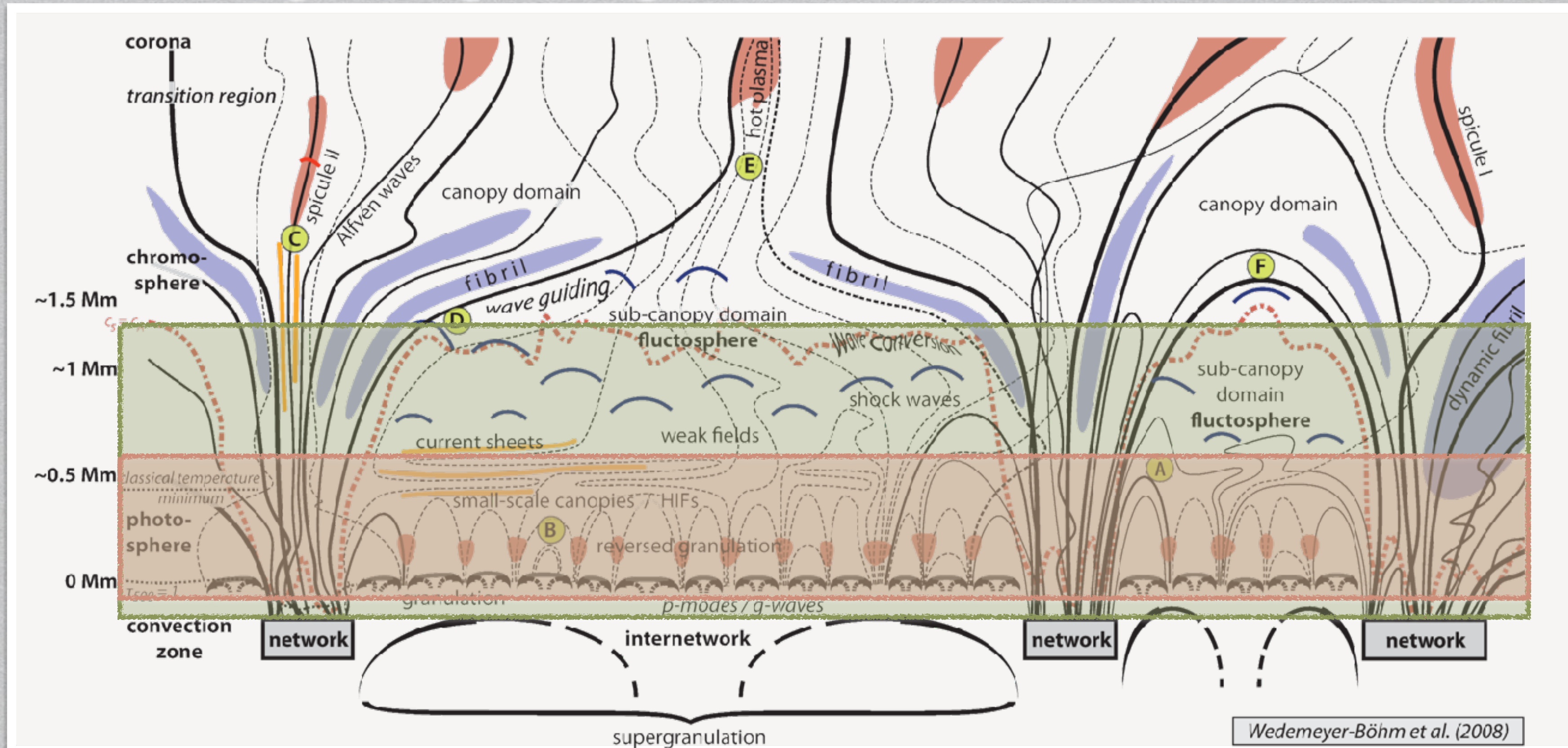
UV SPECTRUM (SUSI vs. FTS) Nov 12 2021



SUNRISE III - PROBING DEEPER AND HIGHER

- Sunrise I & II resolved elementary magnetic structures, uncovered chromospheric waves & a possible new way to heat the corona
- Sunrise III will use a new gondola with significantly enhanced stability
- improved science instruments and to probe the magnetic field & its influence on the plasma over larger height range

SUNRISE I+II



SUNRISE III

SUSI (UV spectropolarimeter)

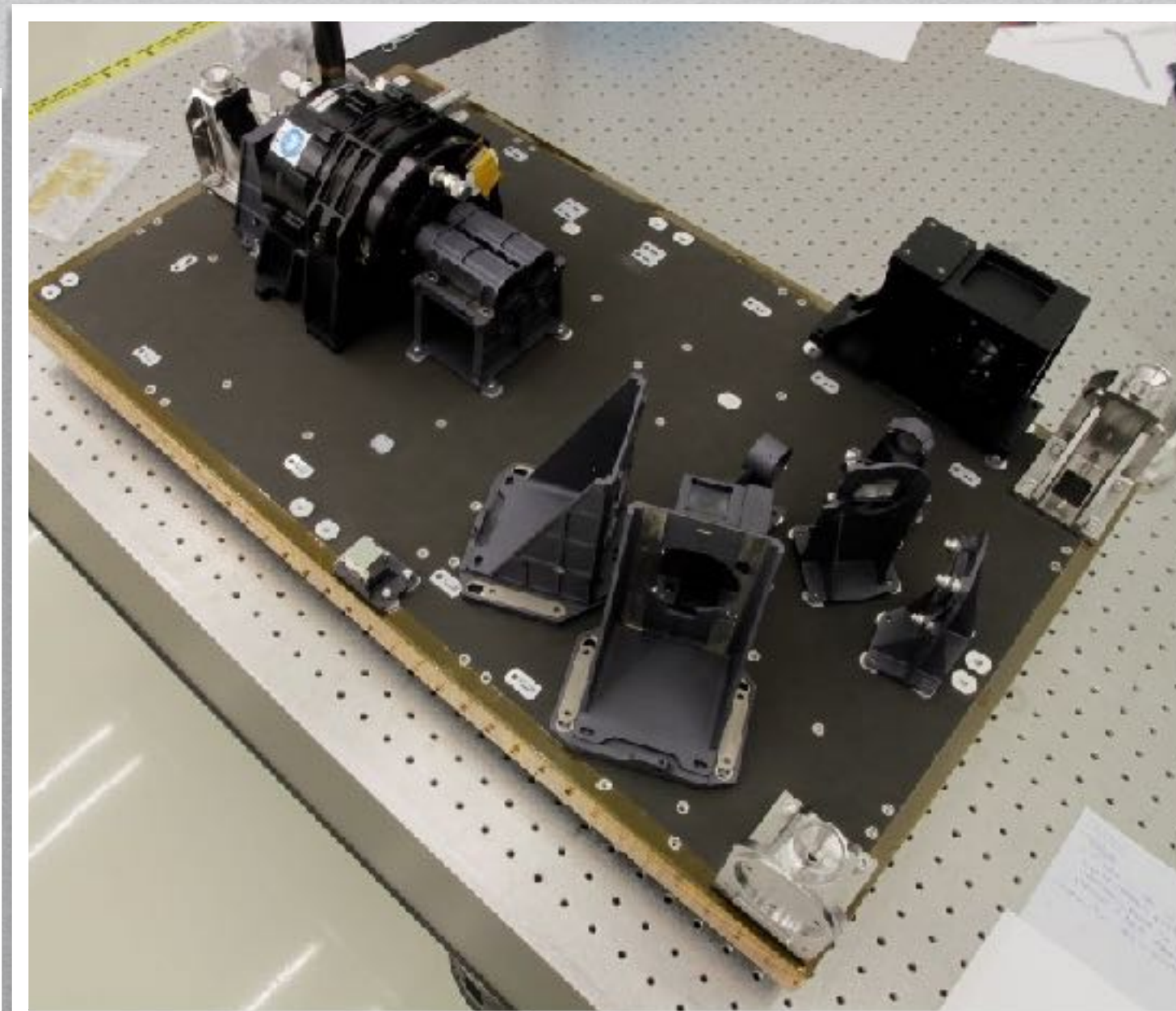
- slit spectrograph
- full stokes from 314-410nm
- unprecedented height & spatial resolution

TuMaG (imaging spectropol.)

- 2D imaging Full Stokes
- photosphere: Fe 5250
- chromosphere: Mg Ib

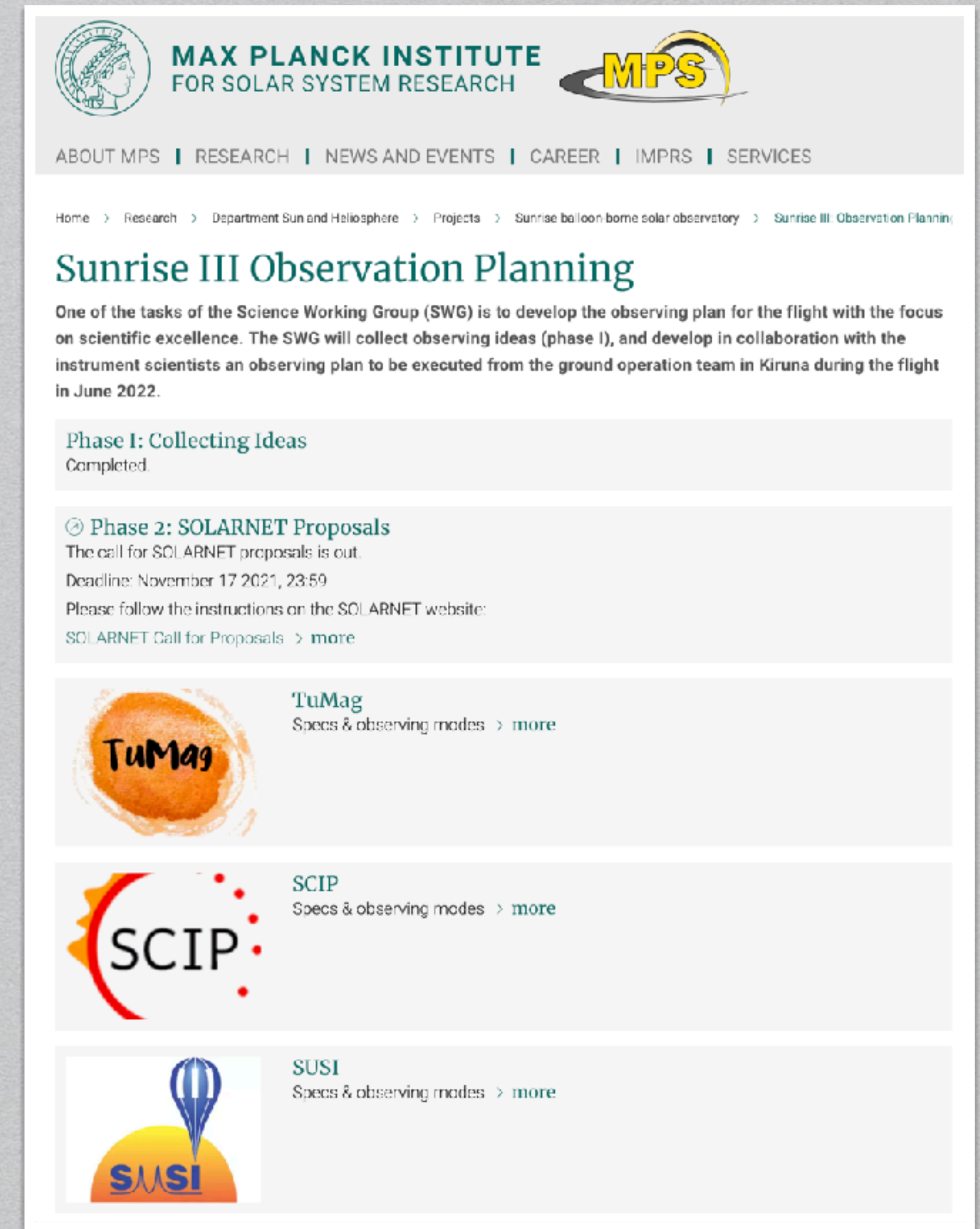
SCIP (IR sepctropolarimeter)

- slit spectrograph
- full Stokes 765-855nm
- incl. Ca IR, K, Fe



SOLARNET PROPOSAL SUBMISSION

- Use proposal form
- The scientific relevance should be presented in 1-2 pages. Please also include references
- Observing plan
 - Target and location (mu)
 - Instruments (SCIP, SUSI, TuMag), all 3 will be available all the time
 - FOV, integration time, wavelength (filter number), slit scan speed, scan repeats, ...
 - Observing time: how long? must the observation be (minimum success / optimum)?
 - Do you need coordinated observations?
- Proposal Submission Deadline: 17 November 2021, 23:59 UT
Send proposals to: east-tac@astro.su.se



The screenshot shows the website for the Max Planck Institute for Solar System Research (MPS) regarding the Sunrise III mission. The page is titled "Sunrise III Observation Planning" and is part of a navigation path: Home > Research > Department Sun and Heliosphere > Projects > Sunrise balloon borne solar observatory > Sunrise III Observation Planning. The page content includes:

- Phase 1: Collecting Ideas** - Completed.
- Phase 2: SOLARNET Proposals** - The call for SOLARNET proposals is out. Deadline: November 17 2021, 23:59. Please follow the instructions on the SOLARNET website: [SOLARNET Call for Proposals > more](#).
- TuMag** - Specs & observing modes > [more](#)
- SCIP** - Specs & observing modes > [more](#)
- SUSI** - Specs & observing modes > [more](#)

<https://www.mps.mpg.de/sunrise-obs-plan>

SUNRISE SCHEDULE

Date start	Duration	End	Activity
04/03/2021	59	02/05/2021	SUSI assembly
23/05/2021	28	20/06/2021	SUSI integration to PFI
20/06/2021	28	18/07/2021	PFI full functional test in vacuum setup (in air)
29/08/2021	5	03/09/2021	TuMAG mass dummy to PFI
03/09/2021	25	28/09/2021	SCIP integration to PFI
28/09/2021	10	08/10/2021	merging of PFI and telescope
08/10/2021	18	26/10/2021	Mating gondola & payload
26/10/2021	28	23/11/2021	Hangtest@MPS
23/11/2021	21	14/12/2021	Operation Training & Final tests
14/12/2021	31	14/01/2022	unmount gondola and payload
14/01/2022	28	11/02/2022	TuMAG integration to PFI
11/02/2022	7	18/02/2022	PFI Pol. calibration from F1 (all instruments)
18/02/2022	21	11/03/2022	PFI Vacuum test with Sun
11/03/2022	21	01/04/2022	packing + transport to Kiruna
01/04/2022	61	01/06/2022	Assembly & Verification @ ESRANGE
01/06/2022	0	01/06/2022	ready for launch