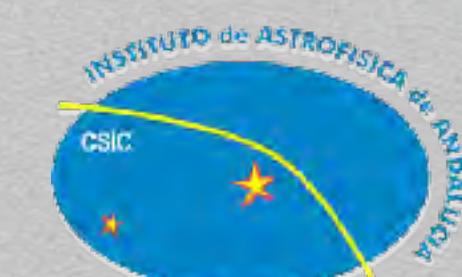




SUNRISE-III EAST TRANS-NATIONAL ACCESS PROGRAMM

ANDREAS LAGG
MPI FOR SOLAR SYSTEM RESEARCH, GÖTTINGEN
SUNRISE III CONSORTIUM





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

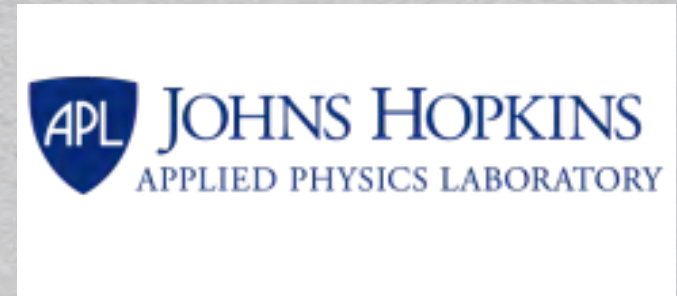
Max Planck Institute for Solar System Research, Germany

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

P. Bernasconi + APL Team

Applied Physics Laboratory, Johns Hopkins University, USA

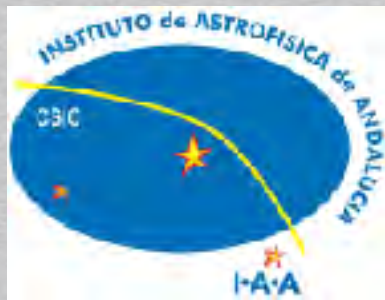
Gondola, Interface to CSBF



J.C. del Toro-Iniesta + TuMag Team

Instituto de Astrofísica de Andalucía, Spain, Spanish SIII consortium

TuMag



Y. Katsukawa + NAOJ Team

National Astronomical Observatory of Japan

SCIP



T. Berkefeld + KIS Team

Leibniz Institut für Sonnenphysik, Germany

CWS



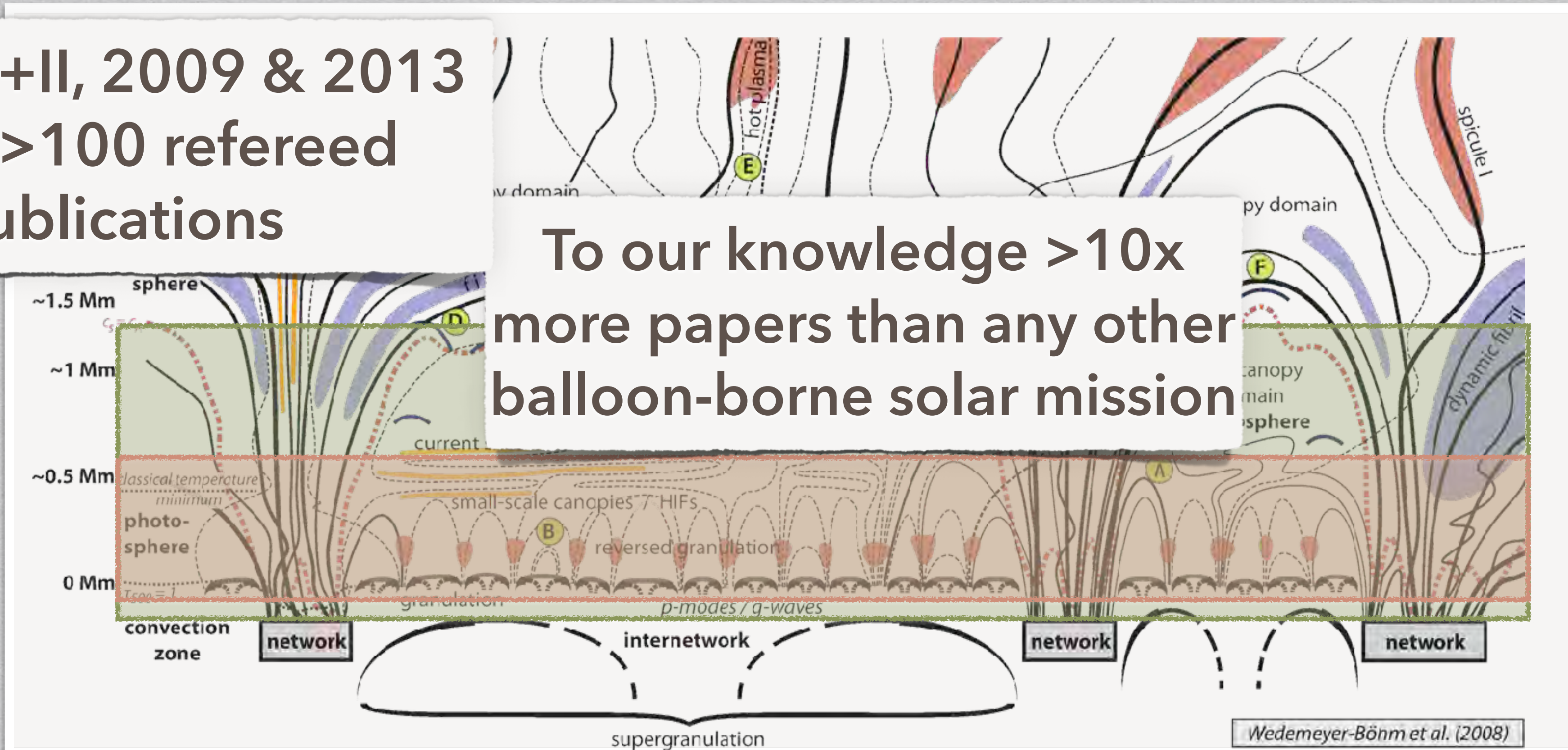
SUNRISE III - PROBING DEEPER AND HIGHER

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

Sunrise I+II, 2009 & 2013
so far >100 refereed
publications

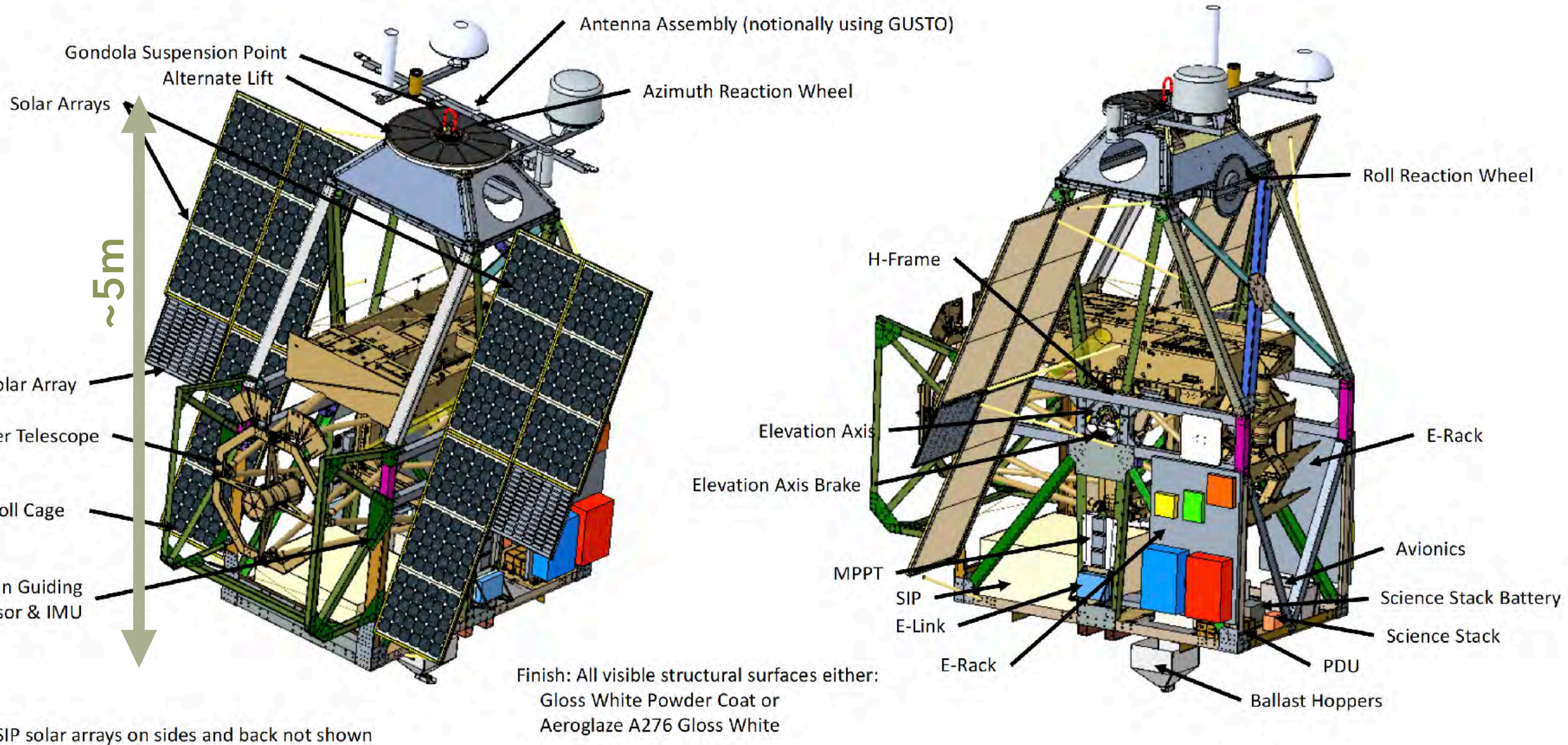
To our knowledge >10x
more papers than any other
balloon-borne solar mission

SUNRISE I+II



SUNRISE III

SUNRISE III: A COMPLETELY NEW OBSERVATORY



SUNRISE III: A COMPLETELY NEW OBSERVATORY

SUSI (UV spectropolarimeter):

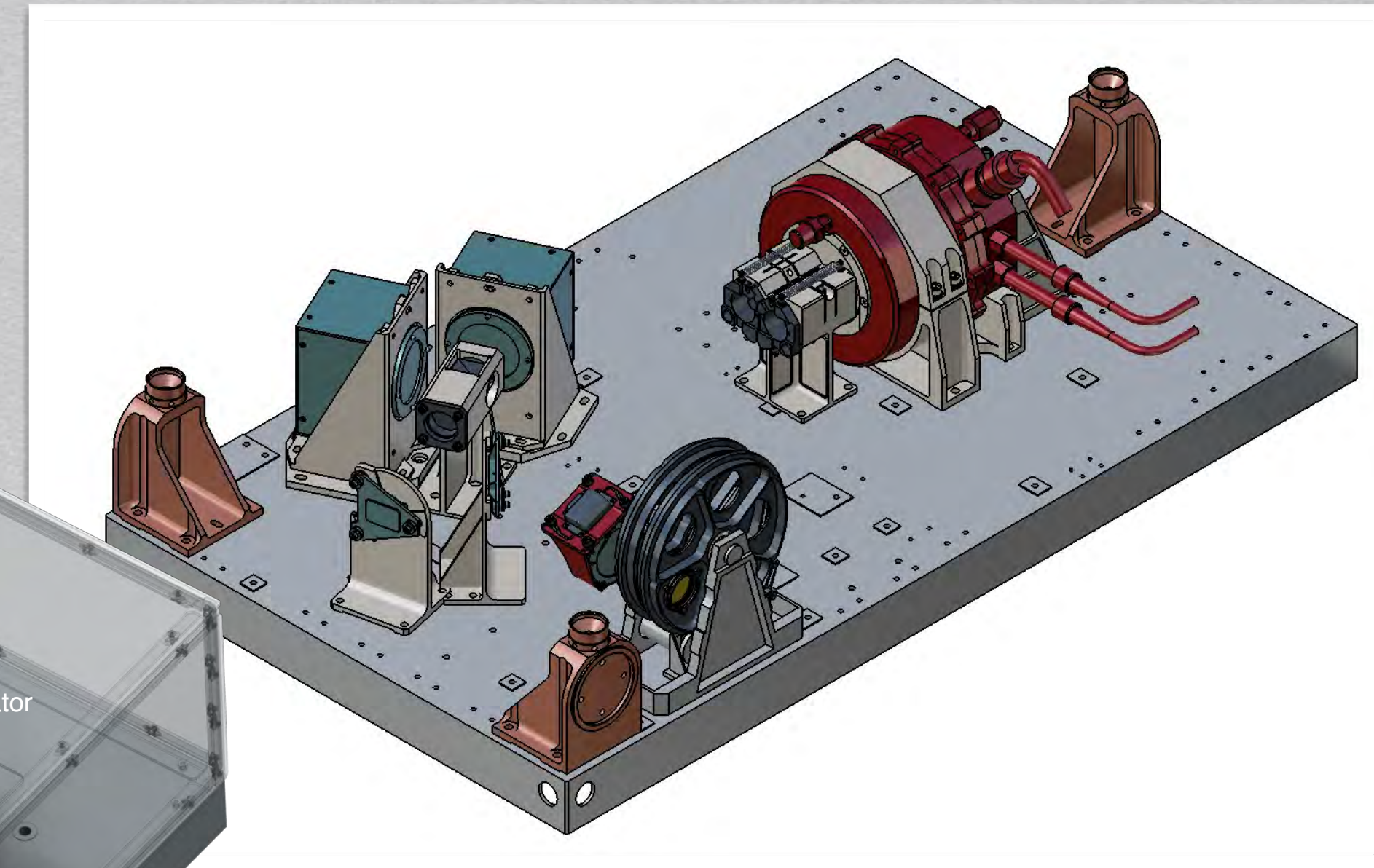
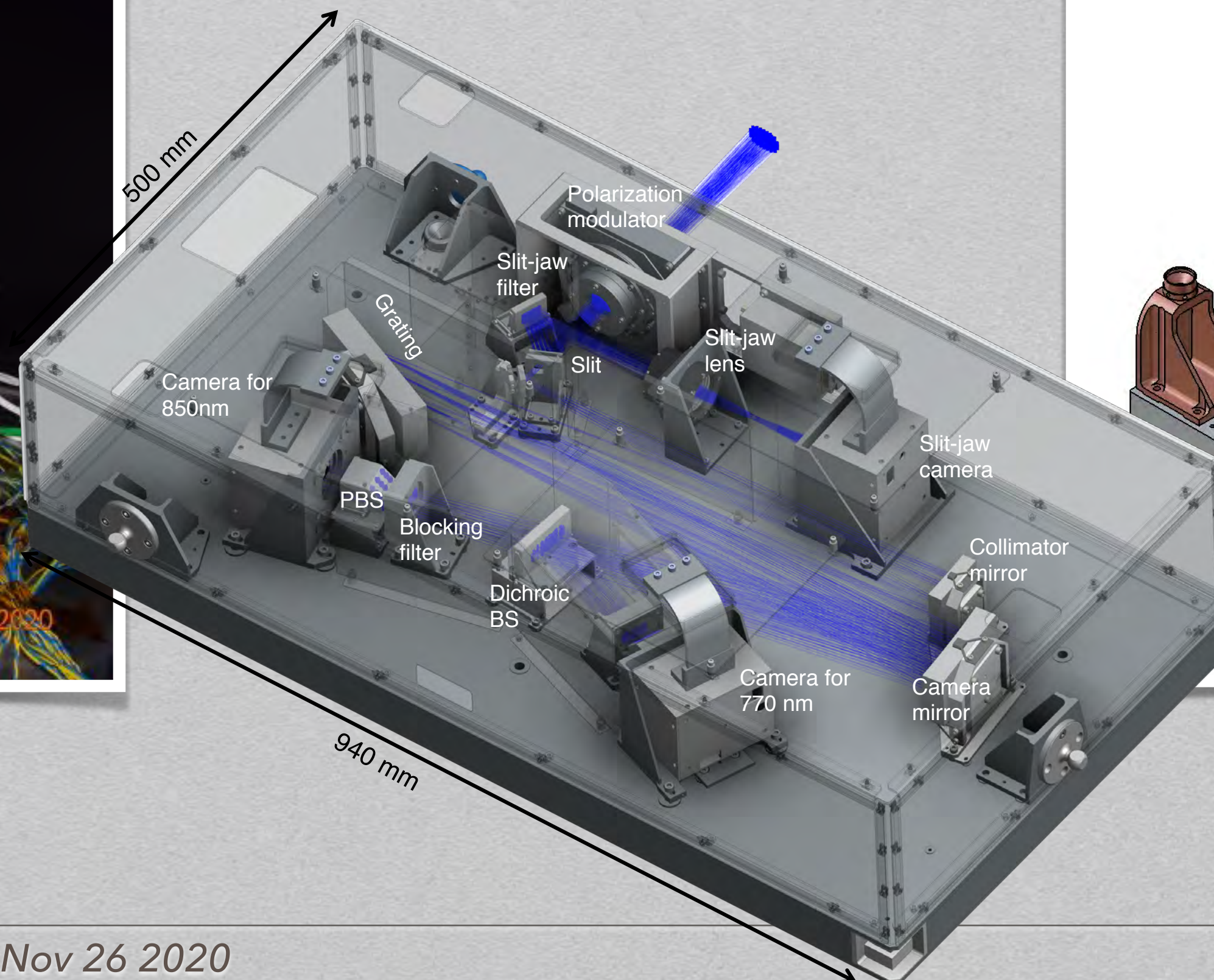
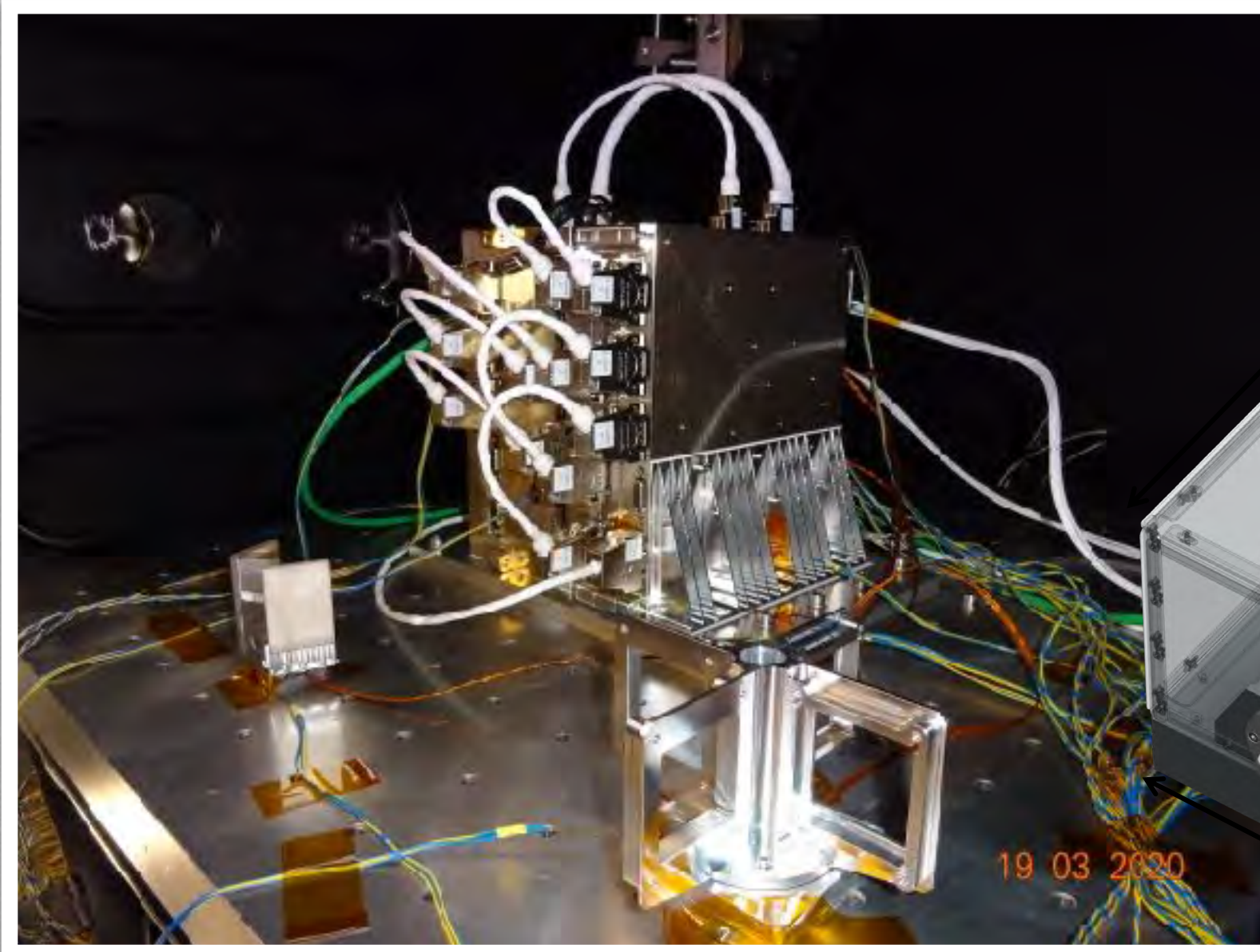
- slit spectrograph
- full stokes from 314-410nm
- unprecedented height & spatial resolution

TuMaG (imaging spectropol.)

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

SCIP (IR sepctropolarimeter)

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



SUNRISE Observations in June 2022:

- Total flight time: approx 5 days (120 hr)
- First 8 hr: Commissioning
- Followed by: Science Phase
 - Observing Plan developed by SUNRISE III Science Working Group (led by Smitha Narayanamurthy (MPS))
 - Monthly meetings until launch
 - Preparation of high-level analysis software
- Recovery of data: max 1 week after landing in Canada

SOLARNET Access to SUNRISE data:

- Proposals to be submitted to EAST TAC through a separate call
- Selection of proposals by EAST TAC:
 - scientific excellence
 - technical feasibility (with help of SWG)
 - time will be awarded by EAST TAC
 - details of data policy to be discussed between SUNRISE team (PI/Cols) and EAST TAC, presented in next forum

SUNRISE SCHEDULE: CORONA ADAPTED PLANNING



Date start	Days	End	Name	
01/11/2020	30	01/12/2020	ISLiD integration to PFI (TT & EGSE TT must be available)	PFI
01/12/2020	21	22/12/2020	CWS integration to PFI (part I)	
22/12/2020	17	08/01/2021	xmas / contingency	
08/01/2021	21	29/01/2021	CWS integration to PFI (part II)	
29/01/2021	0	29/01/2021	ICS ready	
29/01/2021	3	01/02/2021	ICS mounting on E-rack	
01/02/2021	42	15/03/2021	SCIP integration to PFI	
15/03/2021	42	26/04/2021	SUSI integration to PFI (ICS required)	
26/04/2021	35	31/05/2021	PFI full functional test with integrated instruments in vacuum setup (in air)	
31/05/2021	14	14/06/2021	PFI into Tvac chamber	TV-Test
14/06/2021	35	19/07/2021	PFI Tvac	
19/07/2021	42	30/08/2021	TuMAG integration to PFI	
30/08/2021	14	13/09/2021	merging of PFI and telescope	Hangtest
13/09/2021	7	20/09/2021	PFI Pol. calibration from F1 (all instruments)	
20/09/2021	21	11/10/2021	Mating gondola & payload	
11/10/2021	28	08/11/2021	Hangtest@MPS	
08/11/2021	60	07/01/2022	Operation Training & Final tests (all instruments)	
07/01/2022	14	21/01/2022	unmount gondola and payload	
21/01/2022	25	15/02/2022	contingency	
15/02/2022	14	01/03/2022	PFI 2nd TVac with Sun	
01/03/2022	14	15/03/2022	packing	Kiruna
15/03/2022	7	22/03/2022	transport to Kiruna	
22/03/2022	70	31/05/2022	Assembly & Verification @ ESRANGE	
31/05/2022	0	31/05/2022	ready for launch	

Launch: June 2022

Test & Training