



VST & LBT Telescope Access via the Rubin In-kind Program

ITA-INA-S18

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People involved: INAF-Centro VST, LBT-Italia

Context & Goals

Rubin Observatory LSST: 10-year deep, wide, fast survey enabling time-domain and multi-band science

LSST will generate a massive alert stream: follow-up → VST (wide-field) + LBT (deep imaging/spectroscopy) are key enablers

ITA-INA-S18: INAF telescope-time contribution using VST and LBT, offered via the NOIRLab call for proposal

First NOIRLab call including VST & LBT: semester 2026B (proposal deadline: 31 March 2026).

Overview of the Italian Telescope-time Contribution

Facilities: VLT Survey Telescope (VST) at Paranal and Large Binocular Telescope (LBT) on Mt. Graham

Annual offer: 35 VST nights (service-mode imaging) + 20 hours of LBT open-shutter time

Time is embedded in the standard NOIRLab proposal and review process

ITA-INA-S18 Work Plan approved by the Rubin In-kind Program Coordinator (review date: 8 Jan 2026)

NSF NOIRLab Call for Standard Proposals: Semester 2026A

This Call for Proposals 2026A (CfP26A) covers the observing time period from 1 February 2026 – 31 July 2026.

Standard and Survey Programs: Deadline is 01 October 2025 at 11:59 pm Mountain Standard Time (=Tucson time).

1. General Information on NSF NOIRLab Observing Proposals

Proposals for standard observing programs at all ground-based facilities coordinated by the NSF NOIRLab, which include US time on the telescopes of Gemini, CTIO (including SOAR), and KPNO (WIYN), as well as community-access time with other observatories (which for 2026A include Magellan, CHARA, Milankovic, NOT, Subaru, SALT, and KMTNet telescopes), can be submitted twice per year.

This Call is for Standard observing proposals. More details about the process of submitting observing proposals to NOIRLab can be found at:

<https://noirlab.edu/science/observing-noirlab/proposals/preparing-standard-proposal-instructions.pdf>

This Call for Proposals document is focused on updates and news specific to semester 2026A.

- *Dual Anonymous 2-stage Review*

Semester 2026A continues the Dual Anonymous Review Process (DARP), which began in 2022B, for all observing proposals submitted to NOIRLab (including Survey proposals and proposals submitted for time on the Gemini telescopes). This process requires that certain text sections of observing proposals must be anonymous, with these anonymous sections being:

How it works (NOIRLab → VST/LBT execution)

- Submit proposals via NOIRLab (deadline: 31 March 2026)
- Evaluation & time allocation through the standard NOIRLab review process
- Technical validation: feasibility check and observing-constraint definition by INAF teams
- Execution & delivery: service-mode observations + data access via archives/pipelines/support
- Goal: smooth handover from proposal to execution, with clear constraints and support channels

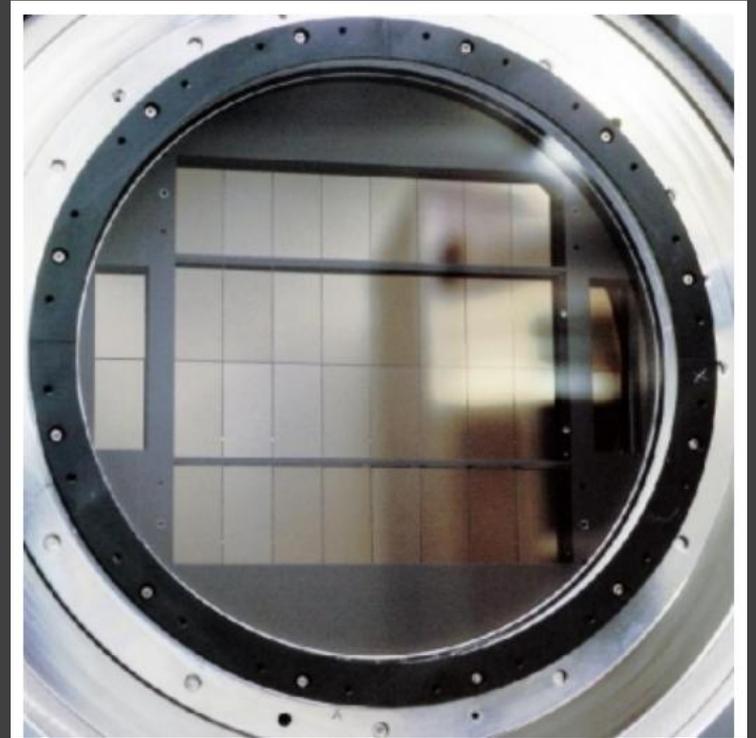
VST: Offer & Capabilities

2.6-m wide-field imaging telescope at ESO Paranal with OmegaCAM (~1 deg² FoV, optical bands)

Annual offer: 35 nights per year in imaging mode

Indicative split: 15 dark, 10 grey, 10 bright nights. Nights are pre-allocated; weather losses compensated

Well suited for wide-field surveys, LSST complementarity, and flexible time-domain follow-up



VST Operations & Policies



Observations executed in service mode

Programs requiring a strictly fixed cadence are not supported

Target-of-Opportunity (ToO) requests can typically be accommodated on a ~24-hour timescale, subject to instrument availability and ongoing operations

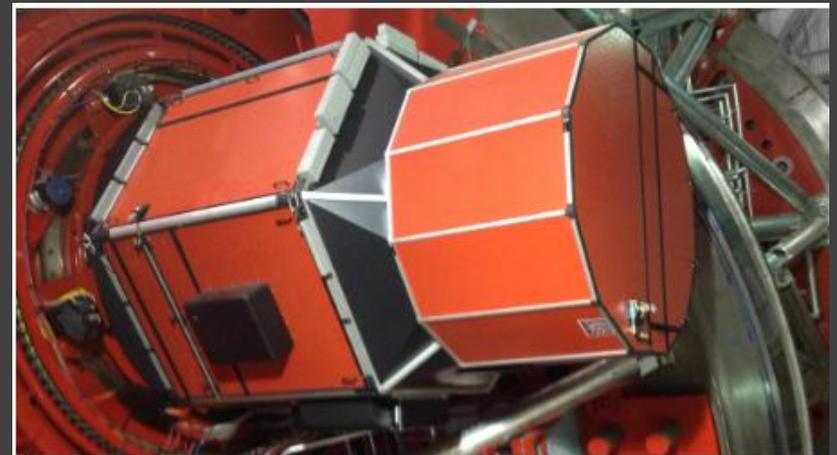
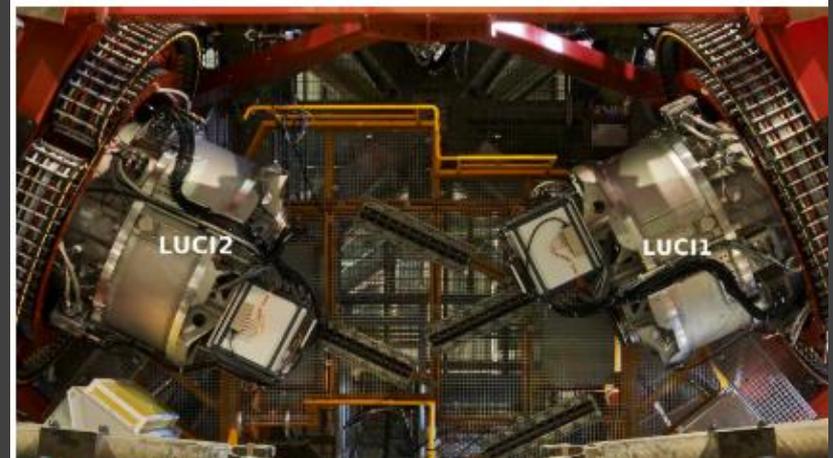
LBT: Offer & Constraints

Two 8.4-m mirrors on a common mount; rich set of optical/NIR facility instruments

Annual offer: 20 hours of open-shutter time within the INAF observing blocks under good conditions (seeing $\lesssim 1.2''$)

Additional hours may be allocated to bad-weather programs that can tolerate poorer conditions

Best suited for high-impact, targeted follow-up of LSST-selected sources



LBT Operations & ToO Policy

Observations executed in queue/service mode by INAF teams within assigned INAF slots

Standard programs and ToOs are scheduled inside these blocks

Exceptionally urgent ToOs outside INAF slots may be requested, but execution requires time granted by the other LBT partners

2025B

11/4/25 3:30

- Facility Restart UT Sept 2nd
- AO restart UT Sept 26-27 with contingency UT Oct 3
- MODS removal Oct 28th for POL install POL Install Oct 29.
- MODS unavailable UT Oct 28- Nov 20
- POL install Oct 29th with checkouts scheduled the following day. POL tentatively available UT Nov 1- Nov 19 for science
- Locater commissioning contributions from AZ and OSU have been integrated into the O/RC blocks
- MODS unavailable for science until mid-October
- Several AZ nights shifted to later block to accommodate MODS delay
- LBTI nights shifted from Dec to Oct
- INAF transfer 2 nights to LBTB

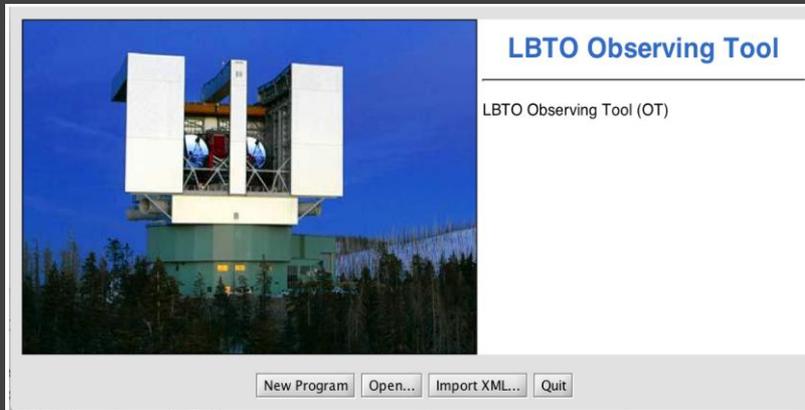
Version 1.3	Day	Date AZ	Date UTC	Member1	Member2	Moon	LMST 0h MST	(note)	PI name(s)
	Mon	1	2	ECD		68.60	22:27	Restart	
	Tue	2	3	ECD		77.50	22:31	Restart	
September	Wed	3	4	ECD		85.50	22:35	Restart	
	Thu	4	5	ECD		92.20	22:39	Restart	
	Fri	5	6	ECD		97.00	22:43	Restart	
	Sat	6	7	ECD		99.60	22:46	Restart	
	Sun	7	8	ECD		99.60	22:50	Restart	
	Mon	8	9	INAF		96.70	22:54		
	Tue	9	10	INAF		91.20	22:58		
	Wed	10	11	INAF		83.20	23:02		
	Thu	11	12	INAF		73.40	23:06		
	Fri	12	13	INAF		62.50	23:10		
	Sat	13	14	AZ		51.10	23:14		Schlawin - LBC/PEPSI
	Sun	14	15	AZ		39.80	23:18		
	Mon	15	16	AZ		29.30	23:22		
	Tue	16	17	AZ		20.00	23:26		
	Wed	17	18	AZ		12.20	23:30		
	Thu	18	19	LBTB		6.20	23:34		
	Fri	19	20	LBTB		2.20	23:38		
	Sat	20	21	LBTB		0.20	23:42		
September	Sun	21	22	LBTB		0.20	23:46		
	Mon	22	23	LBTB		2.10	23:50		
	Tue	23	24	LBTB		5.60	23:53		

Schlawin - LBC/PEPSI

Johnson #3 - PEPSI



Support for Phase I and II



Phase I (proposal preparation): technical consultation available via vst@inaf.it and lbt-italia@inaf.it

Phase II: detailed instructions and templates on the VST and LBT web pages

VST user support pages: observing constraints, exposure-time calculators, pipeline documentation (<https://vst.inaf.it/user-support>)

LBT science operations pages: instrument manuals, modes, and preparation tools (<https://scienceops.lbto.org/>)

INAF teams coordinate scheduling and communicate with NOIRLab PIs throughout execution

1 BEFORE YOU START

- Check username/pwd to log into p2
- Get familiar with p2 (see here)
- Check if you need any other tool (e.g., FIMS, FPOSS, KARMA)
- Check if you need to submit any waiver request

2 PREPARE MATERIAL

- Prepare Observing Blocks (OB) with p2
- OBs should include finding charts (TIP: use ObsPrep and p2fc)
- Write a README for the programme
- Certify your material and press "Notify ESO"

3 FINAL CHECKS, GO!

- The "Notify ESO" button will announce that your material can be reviewed by ESO staff
- You will be contacted if any modification is needed
- After this interaction is done, observations can start!

Data Access & Reduction Support

VST: raw data available via the ESO Science Archive; standard 1-year proprietary period (https://archive.eso.org/eso/eso_archive_main.html)

VST data reduction via Astro-WISE; online training sessions by the VST Center (<https://vst.inaf.it/user-support/learning-sessions-for-data-reduction>)

LBT: raw and calibration data accessible immediately from the LBT archive; 1-year proprietary period (<https://archive.lbto.org/>)

Imaging (LBC/MODS/LUCI – INAF-OARoma) and PEPSI spectroscopy (I. Ilyn): reduced products typically delivered within ~1 week

SIPGI pipeline (Gargiulo et al. 2022) available for LUCI and MODS spectroscopy; rapid turnaround may be attempted for urgent cases

Overlap & Coordination of Programs

Potential overlap between INAF-led and NOIRLab-led programs on VST or LBT is expected

Facility Liaison and relevant TACs may invite PIs to coordinate or merge programs with similar targets/strategies

If coordination is not possible, the Facility Liaison will make the final decision



Collaborators for Phase I, II and Data Reduction?

- In a call with Steve Margheim and Alfredo Zenteno, I got the sense they'd welcome help, especially on data reduction
- Ask the INAF community for volunteers to support NOIRLab (data reduction or other proposal tasks), with co-authorship in papers as appropriate ?



Summary

VST: 35 service-mode imaging nights/yr (15 dark, 10 grey, 10 bright) with flexible ToO capabilities

LBT: 20 hr/yr of high-impact follow-up under good conditions plus potential bad-weather time

Both facilities offered via Rubin's In-kind Program through the NOIRLab call for proposal

Data rights for 12 Italian PIs