

TBL DIRECTORS' REPORT

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Abstract. Latest news on Telescope Bernard Lyot are given in this communication.

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1 Pic du Midi latest news

1.1 New science buildings: Dauzère and SPIP extension

Erection of Dauzère building and TBL extension for SPIP started in spring 2021. Fig 1 shows a top view of the extension that shall home the vacuum chamber for TBL primary coating. TBL tower level 0 was relevelled with a concrete slab (grey area on Fig. 1). The area is ready for SPIP enclosure.

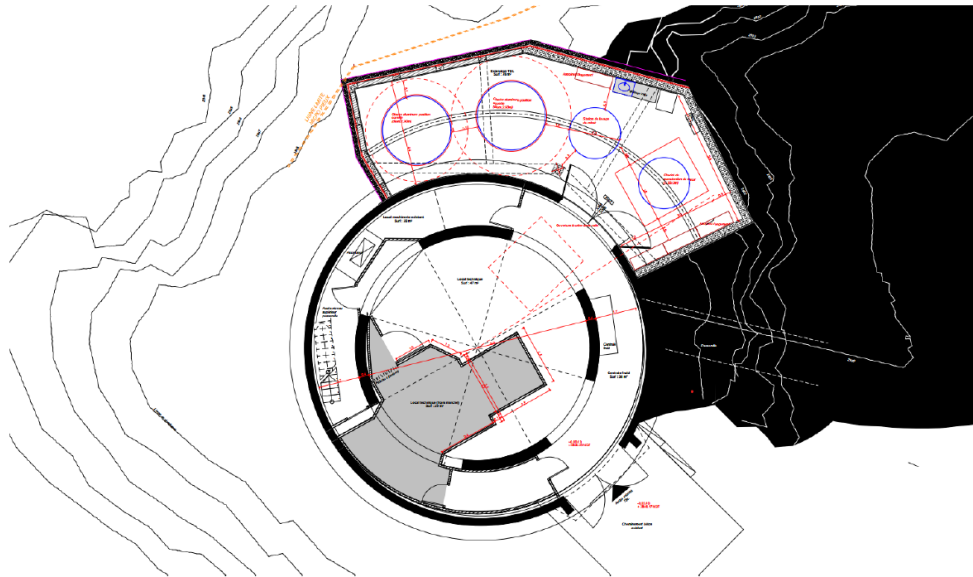


Fig. 1. Top view of the plan of TBL/SPIP extension started in spring 2021. This extension will home the vacuum chamber for primary Al coating.

Pic du Midi was granted funding of 1.15 million euros (under Contrat Plan Etat Région 2021, project Observ'Occ) for the developing the new bonnet VISION (Lopez Ariste S12 communication). The new bonnet will allow to use Neo-Narval and SPIP instruments simultaneously at TBL cassegrain focus. Other developments at Pic du Midi include a new building construction Dauzère, with 30 beds, conference room, central control room, network room (completion expected 2023), a new coronagraph in replacement of CLIMSO. A new T50 (in replacement of the T60) and refurbishing of T1M to serve the training sessions of new European Research School TESS (first Masters trainees expected in Fall 2022.)

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2 TBL administrative news

2.1 TBL new status: pro/con

TBL has changed its administrative status from USR 5026 to SNO in 2016. We have now a few years to review the impact of the change. The most positive impact is that management by OAR831 OMP has added lots of flexibility in organising staff missions at the summit. The Pic du Midi Team of electronics experts and telescope operators are fully trained on TBL observations. Unfortunately this positive impact does not compensate the loss of budget of 50 000 euros/year since 2015, which has a very significant impact on our ability to maintain TBL infrastructure, small components, and fluids. The users should be aware that TBL reliability may decrease in a close future because of our lack of funds. Finally, the directors' interim will end on Aug. 31st, 2021. A new director has yet to be nominated. Needless to say, that this is the most urgent task that the community as large must focus on.

2.2 TBL Staff

TBL runs in full service mode with 8 telescope operators and 6 electronics experts. In the coming 2 years, three essential TBL staff will retire, and 2 staff working closely for TBL. The cryogenic expert among the operator, the head of electronics team at TBL and senior expert, the head of the mechanical workshop in Tarbes, and the technical director of Pic du Midi. If any of those positions are not replace one to one, TBL be have to reduce its offer (number of night, higher cost of maintenance, etc.)

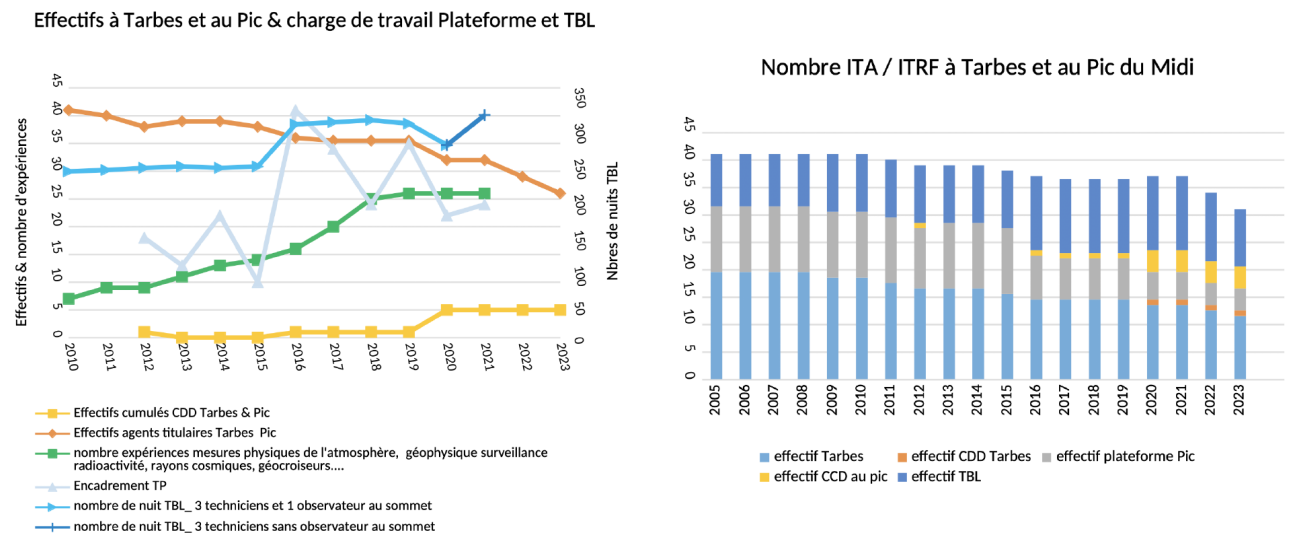


Fig. 2. Recent evolution of Pic du Midi and TBL workload and staff replacement. **Left:** number of experiment (green) number of TBL nights (blue), student training session (grey), number of permanent staff (orange), number of short term staff (yellow). **Right:** Histogramme of staff number between 2005 and 2023: TBL staff (dark blue) in Tarbes (light blue) Pic du Midi platform (grey) short term (orange and yellow).

2.3 TBL service observing

During the period 2016-2021, full service mode required 3 full time equivalent (CNAP astronomers) for support and queue preparation and quality control. The service observations were performed by 80 volunteers from the Observateurs Associés TBL association, 25 PhD or post-doc, 72 Masters Students, and 10 astronomers. Since May 2020 (Covid-19 sanitary crisis), service observations are completely performed by TBL operators. Remote observations are possible for Neo-Narval. The new direction will have to review observation management on a regular basis. It seems important to allow young astronomers to train on telescope observing. Keeping that option for TBL is easy.

3 Observations statistics

Semestre	PNPS	PNP	PCMI	PNCG	Opticon	Divers
2016A	6	1	1	0	1	0
2016B	7	0	1	0	1	0
2017A	6	0	1	0	1	1
2017B	5	2	1	2	0	0
2018A	7	0	0	2	1	0
2018B	8	0	0	0	0	0
2019A	10	0	0	0	0	1
2019B	7	0	0	1	0	0
2020A	9	0	0	2	0	1
2020B	11	1	0	0	1	2
2021A	9	0	0	0	0	2

Sem. h %	A		B		C	
	Alloc.	Réal	Prog	Réal	Prog	Réal
2016A	171	68.3	124	52.3	7	900.0
2016B	150	202.4	75	88.2	95	168.4
2017A	139	131.4	91	151.1	39	218.3
2017B	396	86.3	194	82.5	76	55.3
2018A	307	59.5	137	54.2	10	5.0
2018B	316	109.8	234	66.4	35	98.7
2019A	300	57.7	300	19.1	35	0.0
2019B	332	28.3	148	22.7	2	0.0
2020A	202	44.2	198	39.7	351	20.3
2020B	234	42.4	219	18.3	319	26.5

Fig. 3. The two tables summarise observational statistics. **Left:** proposal distribution among PN in the past five years. **Right:** completion rate of A, B, C classes, first column are the number TAC allocated hours, second column is completion rate in percent of allocated hours.

Technical losses: 2019B: Neo-Narval integration and commissioning 3 months, 2020A: CoVid-19: 2-month close down, 2020B: Primary coating, 2 weeks (Fabry-Perot upgrade during the same period), 2021B and 2022A: expect SPIP integration and commissioning.

4 TBL Publication record

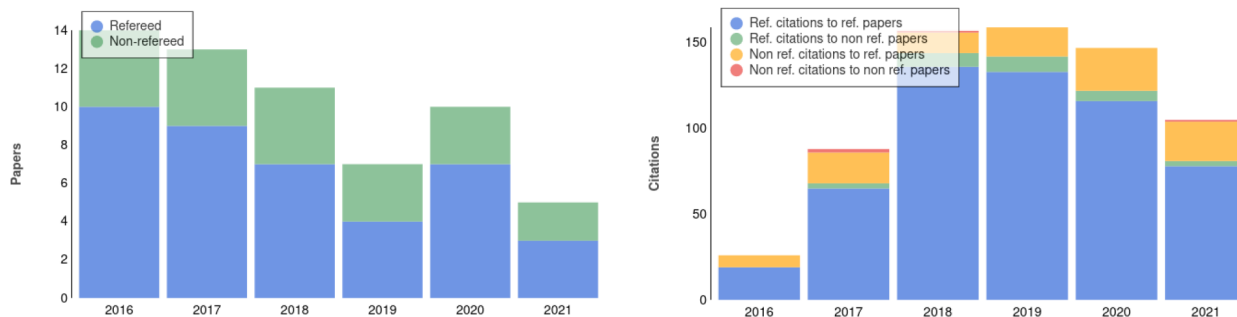


Fig. 4. Publication record at TBL over the past five years (data from ADS). **Left:** publication number refereed (blue), non-refereed (green). **Right:** number of citations.

5 Future developments

During this National Telescope Users Meeting (Session 12) you will hear of the latest development on Neo-Narval (instrument stability, DRS) from Arturo Lopez Ariste, and an update on SPIrou Pyrénéen (SPIP) from Claire Moutou. I briefly mention that Neo-Narval is now fully operational, the arrival of the new Fabry-Perot from Geneva in spring 2021, allow us to track the behaviour of the spectrograph in the thermal enclosure. A day-to-day stability of ± 2 m/s in radial velocity is monitored with jumps from one night of 30-50 m/s. Those jumps are correlated with the TBL tower temperature from sunrise on. DRS is getting close to its final version with a good measure of absorption line equivalent with, some remanent errors on the wavelength calibration polynomial and magnetic field measurements are different from Narval Libre-Esprit by ca. 10%, this difference is not yet understood.

SPIP integration and arrival has shifted a bit from original plans. The expected arrival is now scheduled as follows: Sept. 2021, spectrograph enclosure, Spring 2022 (SPIP polarimetre), end of 2022 (SPIP Spectrograph). A few weeks are expected for integration and commissioning.

6 Final words

R. Cabanac wishes to add that he enjoyed the past 14 years serving the French astronomical community as director of TBL (with an halt in 2017-2018 when Eric Josselin took the lead), he will still be in Tarbes and will continue to serve Pic du Midi as science director and co-Director of OMP in Bigorre.