Scheduling 2013B: an experiment…

Ref: CV130512

Att: SciOp + LBTO Management + Partner coordinators and STC members

This document is introducing a slightly different way of scheduling observing time at LBT. It is open for comments and questions, and can evolve to fit better the needs of the communities we work for.

Rationale for a change?

Currently, partners' runs are scheduled in an automatic way, namely three runs per lunation. With four partners, each one is receiving its share of dark and bright time. It makes for a very easy scheduling seen from the observatory… We just need to interleave technical time, generally around full moon.

There are a few downsides, which are the price to pay for the current easiness of the scheduling process:

- Runs are scheduled without any attempt to match the nights offered to the observing programs. Planetary transits, for example, often fall outside of scheduled science runs.
- Some runs are around an instrument or a science project for which more than one partner give time, therefore requiring a lot of time swapping to fit in the model of partner runs.
- Technical time has to be scheduled by blocks of nights, while it could at times be better scheduled spread over a few nights.
- Unused technical time is not easily usable for science.

It is clear that moving in a full queue and service observing mode would solve all the aforementioned downsides (and more), such a move will take a few years at LBT and will be undertaken only after the review process required for large projects.

Meanwhile, there are a few changes we can make sooner than later to help mitigate the current downsides and hopefully improve the overall efficiency of the use of observing time by the partnership and the observatory. This document is outlining these changes we propose to implement in 2013B as an experiment.

Four categories of observing time

Observing time is split in four categories:

- Commissioning time (**C-time**) is scheduled for the commissioning of new instruments or capabilities. One can cite ARGOS, Pathfinder, Luci-2, MODS-2, PEPSI as projects requesting C-time at some point in 13B.

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- Engineering time (**E-time**) is technical time needed by the observatory to (1) prepare the telescope for science and (2) to take care of its in-house projects, which all aim at improving its operation: image quality improvements, new collimation systems and procedures, or the regular development of the TCS and the improvement of binocular observations, are some of the projects requiring E-time.

- Director's discretionary time (**D-time**) is science time available to the LBT science staff. D-time is also available to PIs by request to the Director for urgent observations of high scientific interest.

- Science time (**S-time**) is the science time available to the partnership.

Scheduling 13B in a slightly different way

- Scheduling instrument runs in addition to partner runs. It will take care of LBTI runs shared by more than one partners, or a potential run of PISCES open to all partners. Each partner will let LBT know how many nights they are giving for these runs and the runs will be scheduled accordingly.

- Scheduling some of the partner runs at a good time for them. Each partner, when submitting the observing programs which have been allocated time for the semester, will highlight one or two programs they would like to see scheduled at a given time. LBT will try to accommodate the requests as much as possible. There is obviously no guaranty as everyone could end up asking for the same period, though it is not likely to happen from the experience gathered at other telescopes.

- Scheduling C, E, or D time spread in partner runs. It will help the efficiency of the overall observing. Often, E-time actually requires a couple of half nights instead of a full night. C-time could make much better use of 10 nights with only two hours of observing for each than 2 full nights. D-time could use a couple of half-nights spread over a run. Therefore, some of the science runs will be made longer by one or two nights to make space for these C- or E-time observations. Scheduling of these non-S observations will be made before the run so that everyone is aware of what will be available and can schedule activities at the telescope accordingly. One of the good consequences of interleaving these different uses is that science gets the time if C- or T-time activities are not ready.

What is changed for the partners?

Actually, not too much!

- LBT will need to receive from each partner by July 8
    - the list of the programs and time allocations for 13B with hopefully one or two programs highlighted if the partner feels like doing so (if not, it will be random as before) and
    - the number of nights allocated to LBTI and (possibly) PISCES, as these instruments will be scheduled for specific runs.

- Some of the runs will be a bit longer than the S-time for the run, as they will include some C- or T-time. It will allow some interaction between observers and staff or instrument teams, which is not a bad thing. As stated above, it will also give to science a chance to get a bit more time if C or E end up needing less time than initially planned.

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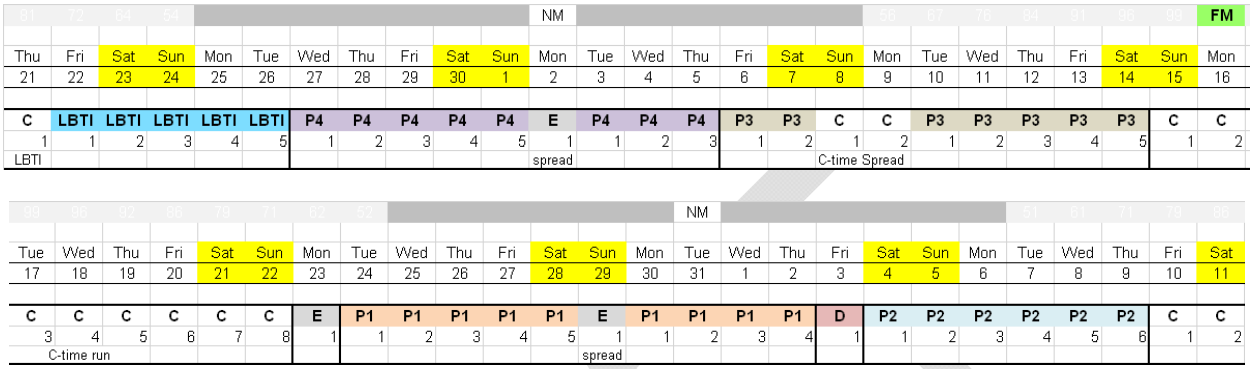
A random example of how a couple of months could look like

This is a completely random rendition of the way the schedule will look like, with a couple of long partner runs, an instrument run, and a long commissioning run too! You can also see some C- and E-time spread over some of the runs.



											NM														FM
Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon
21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	LBTI	LBTI	LBTI	LBTI	LBTI	P4	P4	P4	P4	P4	E	P4	P4	P4	P3	P3	C	C	P3	P3	P3	P3	P3	C	C
1	1	2	3	4	5	1	2	3	4	5	1	1	2	3	1	2	1	2	1	2	3	4	5	1	2
LBTI											spread						C-time Spread								

													NM												
Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11
C	C	C	C	C	C	E	P1	P1	P1	P1	P1	E	P1	P1	P1	P1	D	P2	P2	P2	P2	P2	P2	C	C
3	4	5	6	7	8	1	1	2	3	4	5	1	1	2	3	4	1	1	2	3	4	5	6	1	2
C-time run												spread													

The real 13B schedule will obviously be different!

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