

Minutes of LN/LBT Planning Meeting
November 03, 2016 – 17:00 CEST (9:00 MST)

Attendees:

- MPIA: Thomas Bertram, Tom Herbst, Kalyan Radhakrishnan, Jürgen Berwein
- LBTO: Christian Veillet, Al Conrad, John Little, Doug Summers, John Hill, Tom McMahon, Jim Wiese

1. Dates and People

Tom provided the following table after the meeting:¹

Who	Arrival at LBT (~ 11 AM)	Departure from LBT (~ 02 PM)
Tom Herbst	15 November	24 November
Thomas Bertram	15 November	24 November
Kalyan Radhakrishnan	15 November	24 November
Peter Bizenberger	15 November	24 November
Juergen Berwein	17 November	22 November
Carmelo Arcidiacono	17 November	22 November
Roberto Ragazzoni	15 November	18 November
Maria Bergomi	18 November	24 November
Valentina Viotto	18 November	24 November
Luca Marafatto	15 November	19 November

2. Scope

Two primary activities:

- i. LN2TA = LINC-NIRVANA to Telescope Alignment
- ii. GWSIM = GWS (Ground Layer Wavefront Sensor) Interaction Matrix calibration.

3. Use of LUCI/AGW, ARGOS Cal unit (ACU), and/or Retro-Reflector (RR)

1. LUCI/AGW and ACU – Planned for LN2TA. Confirmed in 04-nov discussion between Roberto, Tom, and John (procedure on page 3 of the technical note² may now change).
2. RR – Required for GWSIM. Requires a modification to the RR.³ RR will be needed on all possible days from 18-22 Nov (see *Activity Schedule* sec. 8.1

¹ Everyone at the summit; no one in Tucson.

² LN-PIA-TN-AIT-059, issue 0.8, 02-nov-2016

³ Similar to the modification for Pathfinder T4, October 2013. Similar in that: The same 3 screws, and the component they hold, will be replaced by a new component. Different in that: single pass (i.e., a fiber run is required for light) and no beam-splitter (so a tilt is necessary; see figure 4 on page 5 of the technical note).

page 18). *Action to Tom and Al: Find documentation of the Oct. 2013 PF/T4 RR modifications (e.g., the feeler gauge measurements).*

3. Which side? – Can be either, LN has no preference. SX seems most likely at this point given LBTO readiness.

4. Coordination with LUCI-2 Installation and Re-Calibration

LUCI-2 will be re-installed on the 17th and planned for on-sky testing with FLAO during the shared LN nights 22-23 Nov. Some LUCI-2 recalibration tasks conflict with GWSIM telescope configuration requirements. Approx. one total day of LUCI-2 recalibration is needed to complete the minimal preparation needed for the on-sky work with FLAO.

The following table summarizes some of the activities that affect telescope daytime scheduling for 15-22 Nov⁴:

Date	Activity	RR?	ACU + LUCI/AGW?
Tue, 15-Nov	Pump LN (Tel = Z)	No	No
Wed, 16-Nov	LN2TA		Yes
Thu, 17-Nov	Intall LUCI-2		No
Fri, 18-Nov	LUCI-2 re-cal interleaved with LN GWSIM (LUCI-2 has priority).	Yes	
Sat, 19-Nov			
Sun, 20-Nov			
Mon, 21-Nov			
Tue, 22-Nov			

5. Requested Support from LBTO

1. Run-specific⁵

- i. Fiber run from LN to top end
- ii. Telescope at Zenith to pump Cryostat (15th, see table above)
- iii. LN2TA – Assistance with ACU and LUCI/AGW.
- iv. GWSIM – Up on oil, quiet telescope at zenith, dark dome
- v. Remove fiber run

2. Longer Term

- i. Mechanical protection for the fibers – Chris and Leroy have ordered the sleeves and plan to install them after the 15th as per discussion on 02-Nov. *Action to Jim, Thomas, Tom, and Al: Sort out a mechanical “lid” (who and how). Includes sending the model to Jim W.*
- ii. Access ladder to LBTI below L-N needs to be removed – *Action to Tom M and Al: Organize a debriefing to LN on LBTI access*

⁴ Cloudy nights may be used. Negotiating the possibility that the RR be left on over night, based on experience from LN/PF visits, is best sorted out between the LN lead, observers, and mountain manager at hand-over. Observer consent is required.

⁵ From section 10 on page 20.

- proposal/plans.*
- iii. He line feed-through panel - Still using red plywood. Aluminum panel must be installed in a way that streamlines removal. To be sorted out during the visit.
 - iv. Protect He cooling lines under LN: - They look like rungs of a ladder, but can sustain no load. *Action to Jim, Thomas, Tom and Al: Sort out plans for a protection (who and how). Includes sending the model to Jim W.*
 - v. Storage for the two ladders – Establish a securing mechanism that allows nearby storage on the UIAP. Ladders are too long for securing to the railing. Securing to the UIAP walking area introduces the potential for a trip hazard. *Action to Jim, David C: Develop a safe storage method.*
 - vi. Alarm system connection: *Action to Al: Work with Mike G, Lars, and Thomas to get this sorted out.*
 - vii. Water protection: *Bulb seal repair scheduled for the spring. A 'last line of defense' protection on LN is planned. Schedule TBD.*
 - viii. Level 7 Draw Bridge: Safe access to UIAP is a requirement. Draw bridge is one possibility. Update of plans can be given in same debriefing (see 5-2(ii) above)

6. Commissioning Plan

1. Additional information requested in August email

- i. Early science observation phases: *Action to Tom to send this information to Christian.*
- ii. Schedule – *Tom will work out 17A requests to Christian before early December.*

2. Guiding and Acquisition

- i. Field Freezing - Although freezing the field open loop (field de-rotation, etc) was partially demonstrated during PF; this will be the first time for the MHWS. The patrol camera and SE travel range including “the middle” makes it easier, but the K-mirror is new. If the rotator trajectories are delivered over the IIF just as they were for PF, specifics of the 5 LN rotators (e.g., K-mirror doubles angles) will all be handled internally by LN and TCS does not need to be aware of these differences.
- ii. CA/IE vs guide corrections – Although both fall in the category of “telescope motions that don’t change the RA/Dec,” they are two different mechanisms. The question of whether an IIF call exists for the latter is still under question.
- iii. Discussion at LBTO/Tucson Monday, 14-Nov – To be continued at LBTO/Tucson approx. 9am to noon with Tom, Al, Michelle and/or Chris, John H, and Doug (with MPIA participation for the first hour from Florian and/or Richard?). *Action to Al to get this organized.*