# JRDG Telecon

1. Heat load estimates – Payne: messy, but nearly done; have done radiation loads, but not conduction (Ellison has looked) and some other things. Harman: analyst has built a thermal model, expects provisional results in a couple of weeks.
2. Calibration – Plambeck: target 1%; some discussion of memo. If $\tau$ is small, chopper wheel is fine; if $\tau$ is large, can get some improvement with a 2-temperature (not cold) load system. Wild: why do think $\Delta\tau \sim 10\%$? Plambeck: a guess of how well you can run a tipper etc. Payne: should have a continuously running FTS for $\tau$ at all frequencies. Lazareff: memo addresses rcvr gain only; should also address astronomical cal issue – get the whole picture; use ambient + hot – have poor experience with cold load at Pico Valeta, due to window reflections. Payne: need to communicate with science calibration group. Wild: at SEST, can't do better than about 15-20% – why does memo say otherwise, why does Mangum say otherwise? Welch was 1% driver. Wade: can't we use 183 GHz WVR combined with atmosphere model? Belitsky: still considering use of cold load in WVR.
3. 1/f noise – Webber: memo summary. Lamb: old experiments at NRAO show about the same result. Payne: expect better performance from SIS. Lamb: want to see results from wideband SIS rcvr measurements. Wild: good plan
4. Thermal link report – Harman: will issue updated drawings of cryostat design. Fabricating & assembling test apparatus.

Expect thermal link test results soon.

5. Dewar – Harman: changes since last version are minor. Design being refined & integrated with optics; still allows for a cold load window & WVR window. Have fitted cold optics onto an 80K shield to ease alignment problems – should be much better, according to Carter. Payne: have progressed on antenna mechanical interface – can get through 1.1-m door and rotate 45° pulse tube to the back. Looking at possibility of floating the semi-cold optics between 80K and 300K. Wade: need a full space requirement for the rcvr package – send to antenna group. Payne: should revisit concept of cooler sticking out the side. Discussion of temperature stability. Payne will circulate drawings within 2 weeks. Will look at consequences of different pulse tube orientations.

6. Optics – Lazareff: alignment issues – old memo – Lamb has checked & agreed. Alignment is critical. Horn is last element on cartridge – must align to final mirror. Tolerance 0.24 mm (lateral) at highest frequency – very hard to insure given cooldown motion. Should allow for alignment of external mirrors. Napier is doing a polarization analysis (also Withington).

7. LO – Webber: summary of progress

8. Project Book – Wild: will ask members to help write rcvr chapter.

Next meeting 27 July, May change Sep date.

Face-to-face topical mtg. on optics: working mtg. in Europe maybe 3-4 Aug? Wild will send an e-mail inquiry.