

MINUTES OF JOINT RECEIVER DESIGN GROUP (JRDG) MONTHLY TELECONFERENCE

15:00 UTC, 2000-Oct-26

Chair: John Payne

Attendees: Baryshev (SRON), Brown (NRAO), Carter (IRAM), Ellison (RAL), Harman (RAL), Lamb (OVRO), Payne (NRAO), Plambeck (BIMA), Rafal (NRAO), Wade (ESO), Webber (NRAO), White (NRAO)

Progress on Optics

The design is on-going. Lamb is writing up a selection report, which will include author contributions on different designs on the band. Baryshev sent out information on the band he is working on. Carter has sent out information on what he has done as well. Carter has made a graphical representation of what the group decided at the Optics meeting in Tucson. As requested, Carter will re-work the design to give a top view which will show the cartridges. Lamb confirmed that the ?? pick-off mirror will be in the center.

Deflection Calculations

No final calculations have been made yet. Need more information on deflections. The mirrors will be mounted outside the dewar. Much discussion ensued on deflection possibilities.

Widget List

Payne received lots of response on the widget list he sent out. Most agreed on the ambient temperature load. Items listed as cautious included: semitransparent vane. Discussions ensued on these cautions. Explanations were given on why the two polarizations (are?) being treated. Lazareff is working on this. A suggestion to drop the quarter-wave plate was brought up. This is not a real science issue.

Receiver Production Meeting

In Munich on November 30 there will be a meeting to discuss the challenges of moving from building lab state-of-art items to production items. Invitations have been sent out to 15-20 people. A draft agenda will go out next week. Comments were asked for. It was agreed that this is a good meeting. There were several ideas given on how this should be obtained. Rafal stated that it would help the meeting progress if, beforehand, there are statements about how the different centers (distributors, etc.) would be defined. Plambeck explained that the intent of the meeting is for the group to develop a draft overall strategy for this process. Payne was concerned that limiting this meeting to one day was too short. Also Payne suggested that individuals should be tasked with items to propose at the meeting.

LO Work

We found that LO power distribution has two problems: too much loss in a long wave-guide run and mechanical waveguide switches. The final power amplifier will be on the warm side of the cartridge. A few more components were put on the cartridge (warm multiplier assembly). Group is looking at several different designs of the warm multiplier assembly and will make a decision in the next few weeks. The size of the assembly will be 1 x 2 x 5 something that attaches to the warm side of cartridge that sticks out the back. Please send comments to Webber (jwebber@nrao.edu). A document will be forthcoming; the plan is to include all calculations and solid state switches. Send all comments to jwebber@nrao.edu. ?? <Payne mentions that we could close the phase lock system reducing the complexity of the system.> Part of the phase-lock loop will be in the warm multiplier assembly.

This is needed to exclude temperature assembly. Webber confirms power up to 300 GHz. A memo will be published shortly. The cold multiplier will be at the 50 K with a power level of a few hundred microwatts.

Miscellaneous

It is now almost certain that the Japanese will join the ALMA Project as a third and equal partner. We will have more information after the meeting in Tokyo.

Brown states there will be a full calibration meeting in the future

The Receiver PDR will be in Tucson, AZ, 2001-Feb-19--2001-Feb-20

Next JRDG Teleconfere will be Thursday, December 7, 2000 at 1600 UTC.

Action Item Review from Optics Meeting

Widget List to JRDG

Who: John Payne

Update: list has been sent out and a few more issues need to be settled

Polarization Document

Who: Larry D'Addario

Update: Not yet completed

Dewar Deflections

Who: Brian Ellison

Update: Work is on-going. Need more detail on what we actually require.

Tolerance Report

Who: Matt Carter

Update: Work is continuing

Analysis of Optical Performance

Who: James Lamb, et al.

Update: Still in progress; deadline set of 2000-Nov-10

Interaction of Optics Aberrations with Aberrations of Chopping secondary

Who: James Lamb

Update: done

Baseline Design for Each Style

Who: Matt Carter, et al.

Update: In progress; due date 2000-Nov-10

IR filters and windows: Define work packages

Who: John Payne and Wolfgang Wild

Update: In progress; work package will be given to IRAM

Current Action Items

IR filters and windows: Define work packages

Who: John Payne and Wolfgang Wild

Due Date: ???

Add Tolerances to Deflections

Who: James Lamb

Due Date: ???

Dewar Deflections

Who: Brian Ellison

Due Date: ????

Circulate Work Package

Who: Bernard Lazareff

Due Date: 2000-Oct-27

Draft Agenda for Receiver Production Meeting

Who: Richard Wade, John Payne, & Wolfgang Wild

Due Date: 2000-Nov-03

Extending Receiver Production Meeting to a Two Day Meeting

Who: Richard Wade

Due Date: 2000-Nov-03

Email Widget List to ASAC

Who: John Payne

Due Date: 2000-Nov-03

Analysis of Optical Performance

Who: James Lamb, et al.

Due Date: 2000-Nov-10

Baseline Design for Each Style

Who: Matt Carter, et al.

Due Date: 2000-Nov-10

Discussion on Polarization Document

Who: John Payne

Due Date: 2000-Nov-15

Distribute Current Deflections

Who: Mark Harmen

Due Date: 2000-Nov-30

Minutes recorded and submitted by Carolyn White

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