SUG Minutes – 25 Oct 2016

In attendance
Dick, Francisco, Whit, Tom, JimB, Jim T, Mark, Jim S, Wes, Shing, Dave

Station Reports – New Info in RED

Tom – Getting geared up for the next season of serious radio observing. Currently watching a northern temperate belt (NTB) storm (atmospheric upwelling) on Jupiter in the optical band.

Dick – Nothing new.

Whit – Enjoying the warm 25 °F afternoon weather. Presently conducting gain stability measurements on several receivers including the FSX, Airspy, SDRPlay, and Jove receiver. Also measuring the stability of sound cards. Mentioned that there is a coronal hole hiogh speed stream reconnecting with the geomagnetic field and that today's K index was 8 – so we should watch for interesting propagation effects in our daily spectrograms. Dave wondered if this would cause increased Jovian DAM. Whit said it takes about 3 days for the particles from the stream to reach Earth. Dave figured that this means they ought to hit the Jovian magnetic field in about two weeks, so maybe there will be more Jovian DAM then.

Nathan –

Jim B – TFD square is laid out, awaiting pole planting. LWA variable dangle angle mod progressing. DDRR test still ongoing. R75 calibration procedure figured out, awaiting write-up of the procedure.

Wes – Still with the line noise. Ordered an MFJ 15-meter band whip antenna and a magnetic mount. Dave and Wes will go trolling for line noise on Wes's local roads using Wes's FSX. Jim B mentioned that a step attenuator is a good accessory to knock down the signal to get a more accurate location on the line noise emitter.

Chuck –

Francisco – Money for student to help set up antennas at RHO is now at UF. Currently taking online micro-courses to learn how to manage a grant as required by UF.

Andy –

Dave – Nothing new.

Discussion – New Info in RED

HEC grant

Chuck mentioned that money is starting to flow from the HEC grant to get some of the SUG-related hardware underway.

Chuck also mentioned that the HEC team is working on generating assessment documents.

Shing mentioned that he has received the system proposal and budget prepared by Dick and Dave and will take a little time to digest. All are in agreement that getting moving on the hardware improvements should happen sooner rather than later. Chuck indicated that the only hurdle before issuing purchase orders for spectrographs and antennas is to find out how Dick and Dave shall be paid from MTSU, which is basically an administrative detail. Dave has the parts on hand for 16 TFD elements and will commence fabrication; however, he will not obtain any coax cable until he has firm orders for it.

Shing mentioned that looking for other sources of funding, especially for the addition of new stations in the future, is an important thing to do now – along with looking for additional station sites and personnel.

Shing also mentioned that he has been in contact with a person at UA and NJIT, both of whom may be willing to set up stations to observe the eclipse.

FCC Noise Floor

Dave has fabbed up a response to the FCC's Inquiry. Dave will make a few minor mods at suggestions from Dick, Chuck, and Jim Sky, and return to the group with an updated version.

Dave has sent around a note from Whit about the FCC's current Technical Inquiry about the condition of the noise floor. Dick also sent around a slide outlining what the FCC is looking for. The FCC desired replies in August, but has extended the dead line to Oct 21st since it has received no replies from what it considers to be important parties (universities and research organizations).

Dick mentioned that mentioning our alliance with MTSU, UF, and NASA / HEC may give us a somewhat louder voice. Chuck and Francisco said they will have to think about the best way to show their universities' involvement. Jim T said that we can certainly say that Jove was started with NASA funding; Shing felt stating that we are collaborating with a NASA funded research and education effort (the HEC) would be a good idea.

Whit mentioned that this is not a legal proceeding, so there are no hard and fast rules.

Jim Brown asked if including images in the response was appropriate; Whit thought it would be.

Dick felt that we should investigate how previous noise floor studies were accomplished.

Whit will send to Dave the applicable ITU recommendations so Dave can contact those responsible. It was noted that the ITU docs do not rely on peer-reviewed information and therefore may not be 100% accurate.

Dave will also draft a response to the FCC's inquiry and pass it around to the group.

Archiving

Mark has sent around a link to the Juno information:
https://pds.jpl.nasa.gov/ds-view/pds/viewMissionProfile.jsp?MISSION_NAME=JUNO
Mark also mentioned that the PDS is gearing up to archive the Jove & SUG data files after Baptiste converts them to CDF – which it is felt will probably be done sooner than later.
Todd King sent around a link to the SUG data presently received, configured, and shared by the PDS. Note: contributed data will not appear here until it has been configured by the PDS; it takes time between receipt of an observer's hard drive and the data being shared publicly.
http://ppi.pds.nasa.gov/radiojove/
Mark indicated that Juno Cruise data will be available publicly on November 1st. Jim T asked when the dividing line is between cruise and the rest of the mission; Mark will check, but thinks the cruise portion of the data will end at orbit insertion. Dave asked for a URL to the data; Mark will pass that around to the group.
Mark Sharlow of the PDS has taken over the reins of the SUG archiving effort from Todd King. Mark has been involved with this effort from the beginning. Shing asked if all Radio Jove data is archived at the PDS yet; Mark is not sure how much is done yet. Shing also asked in any Juno data has been posted; Mark does not see any yet. Shing asked if Juno data was immediately public or had an embargo period; Mark was not sure. Jim Sky is still working on generation 2 of the CopySPS utility. This should not prevent anyone from sending in their current SPS files who has not done so before. One of the things the new version will do is read the manifest file created by version 1 that lists all of the files sent in on the first submission. Thus it can avoid re-sending those files. The next update to CopySPS will also submit SPD files so a name change is in order for the copy program. **Anyone who has not submitted data on a PDS hard drive is asked do so and to contact Jim Sky for any needed help.**

Software

Jim S has made available a link to a plugin to make SDR# act as a data-feeder for RSS, which means one can now use RSS to record data and spectra from the Airspy and FunCubeDonglePro Plus receivers.
http://cygnusa.blogspot.com/2016/10/use-sdr-with-radio-sky-spectrograph.html
Latest version of RSS is 2.8.27 which includes improved integration for the SDRPlay receiver.
http://radiosky.com/spec/Spectrograph_Update_2_8_27.exe
Jim S is working on modifications to the data copying program to make it able to handle SPD files as well as SPS files. This will facilitate data transfer of SPD files to the PDS.
Jim Sky indicated that experimentation continues with Nathan's SDRPlay2RSS program. He is trying to make the program easier to use from within RSS. The next RSS update should allow multiple configurations of the SDRPlay front end to be selected.

JUNO

Chuck is making several ground-based observations using the LWA-1.

2017 Solar Eclipse

Francisco has written and passed around a draft of a proposal for the Interdisciplinary Science for Eclipse 2017 grant program. Jim T mentioned that this is a 1-year citizen science program related to heliophysics and it is hoped that Jove can leverage off the HEC grant already in-hand. The deadline for Phase I submission is 11/3/16. Dave asked about spectral data; Jim T and Shing replied that the focus is on single freq Jove stations and analyzing data from as many sources as possible, including SUG spectrograph stations (which provides a tie-in to the SUG).

Currently the hardware aspect of the proposal is to get as many Radio Jove stations online in the path of totality as possible before the eclipse. Also, there is a probable necessity to modify the Jove receiver for greater long-term gain stability so it may serve as a simple riometer. For data analysis, development of software to merge and analyze single-frequency and spectral data must be undertaken.

SUG participants wishing to be a Co-Investigator (paid, more responsibility) or Collaborator (unpaid, less responsibility) must register with NASA NSPIRES immediately so Shing can add us to the proposal.
https://nspires.nasaprs.com/external/

Currently the participant list looks like this:
PI – Shing
Co-I – Chuck
Co-I – Francisco
Co-I – Dick
Co-I – Jim S
Collaborator – Jim T
Collaborator – Jim B
Collaborator – Whit
Collaborator – Wes
Collaborator – Dave

Next SUG Telecon Tuesday, 08 Nov 2016 at 5:00 pm EST (2200 UTC)
(844) 467-6272, 352297#