SUG Minutes – 16 Aug 2016

In attendance
Kazu, Chuck, Whit, Nathan, Francisco, Tom, Jim T, Jim S, Wes, Andy, Dick, Dave

Station Reports – New Info in RED

Tom – Nothing new.

Dick – RSS not serving; also, can't remotely access the PC via VNC. A trip to Kaneohe is in the offing.

Whit – SPID rotator controller went berserk and jammed the new LPDA into the tower at Cohoe. Antenna elements at the high freq end are damaged and require de-snarling from the tower. Whit is obtaining replacement antenna parts from Japan. Replacement rotator controller will be a Green Heron unit, upon which time the SPID controller will be used as a clay pigeon.

Nathan – Will be receiving a RASDR-2 SDR from Bogdan soon. Intent is to get the unit working for HF-band observation and write any code that is necessary to extract data from the instrument.

Jim B –

Wes – Removed one band of noise by switching the FSX power supply from one household 120 VAC phase to the other. Another band of noise removed by changing to a different monitor on the RSS PC. Also, has sent John Cox the elements and feed system for a 4-element square Jove dipole polarimeter array. Wes indicates that John will probably have it set up in time for the next Jupiter apparition, if not before.

Chuck – Performed a site survey at the school's dairy farm with one dipole; no RFI noted. However, the nearby electric fence was turned off. Will re-do the survey with the fence turned on. Several observers requested a spectrogram of what the electric fence RFI looks like. Chuck will also investigate whether the fence must always be turned on or might be turned off for observations.

Francisco – Nothing new.

Andy – Nothing new.

Dave – Nothing new.

Discussion – New Info in RED

Radio Jove Cubesat

Kazu described his proposed satellite, a fixed-frequency 20.1 MHz receiver aboard a 2U Cubesat (4 x 4 x 8 inches). Antenna would be a 15 meter dipole that would unspool from the Cubesat chassis. Receiver would have a prox 5 kHz bandwidth. Proposed system will use a Raspberry-Pi Zero to digitize and record the detected signal at 10 kilosamples per second. A GPS receiver with 1 PPS output will be used as a timing source. The data will first be stored, then only small portions transmitted to the ground. Downlink will be in the 70 cm ham band. Uplink will be in the 2 meter ham band. Downlink will operate at 9600 bits per second. Goal is to look at Jovian S burst timing and correlate with ground-based observations. The next proposal phase is for launch of the instrument from the ISS. If approved, launch would take place in two or three years.

JUNO

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

Archiving

Jim Sky has released an updated program that will automatically copy the user's RSS data directory to a PDS hard drive and format the directory structure on the PDS hard drive the way the PDS wants if formatted. The updated version creates a manifest in the user's RSS data directory. This will aid the user in knowing what data was provided to the PDS and when. Chuck's students used the original version of the program and will try the new version. Dave will try the new version as well.

2017 Solar Eclipse

Chuck mostly done with a guide for participation in observing the 2017 eclipse with a Radio Jove receiver and one or two dipoles. Another practice session will be held late August or early September. Dick suggested the sooner the better in order to have a noise baseline similar to next year's eclipse date of Aug 21.

HEC grant general news

Shing, Chuck, Jim T, and Len are digesting the station upgrades and station capabilities documents that Dick and Dave provided. Chuck asked if he could use data from the Florida cluster in his presentation to the AGU; Francisco, Wes, and Dave all agreed. Francisco and Wes requested to be notified ahead of time so they can be sure to have their equipment running during the desired time. Francisco hopes to have RHO up and running in time for the next apparition. If that doesn't work, Chuck may fall back on using a data comparison from early 2016 from several more SUG stations, not just the Florida group.

Next SUG Telecon Tues, 30 Aug 2016 at 5:00 pm EDT (2100 UTC)
(844) 467-6272, 352297#