1. IDL PROCEDURES—SPECIAL FOR FRANK!

1.1. For Controlling the Dish

1. `pointl` moves the telescope to a specified (alt,az). Example:
   `print, pointl( alt=20, az=180)`

2. `maint` moves the telescope to maintenance position

3. `stow` moves the telescope to stow position

4. `pointl_radec` moves the telescope to a specified (ra,dec), sun, or moon

5. `follow` tracks a given (ra,dec), sun, or moon and can write a file containing relevant pointing data.

1.2. For Taking Data

1. `noise` turns on or off the calibration noise diode. Examples: `noise, /on` and `noise, /off`

2. `rxpwr` returns the channel-integrated spectral power from the ROACH box as input.

3. So to see the rf power of the noise diode:

   ```
   noise, /off
   wait,4
   print, rxpwr()
   noise, /on
   wait,4
   print, rxpwr()
   ```

4. `set_lhp` sets the frequency and level of the l.o. *Important:* the resolution of the l.o. is 10 KHz; see the documentation for this procedure.

5. `rxpwr` returns the channel-integrated spectral power from the ROACH box as input.

6. `startchart1` runs a 'chart recorder' using the channel-integrated spectral power from the ROACH box as input.

7. `getspect` sets the l.o. and the noise diode, then averages a specified number of spectra from the ROACH box and optionally plots or saves the result in an IDL save file, which contain ancillary info such as Julian day. ra, dec, etc.

8. `leuschner_rx` Take and record spectra with the ROACH box.

9. `filename` generate a filename of the form: `jjjjjjj.jjjjjj_sn0000_nd1_1270123456`

10. `fits_to_sav` converts a fits file, which contains nrspectra spectra, into a sav file with a single spectrum equal to the avg, also the median. Also lots of ancillary info, all in a structure

11. `frq` calculate the array of IF or RF freqs from the tags in the standard output structure.