Project for Can Lyu - Keith Vanderlinde

-starting with a piece of code that translates CHIME-like input data (4+4-bit complex voltages in 1024 freq channels @ 2.56us cadence) into something suitable for an FRB search (32-bit real powers [i.e., vv*], accumulated to 1ms, and upchannelized to 16k frequencies. The algorithm is something like:
- to start, generate ramps or some other simple signal as 4+4-bit complex integer data
- convert all your data to (32+32) floating-point
- in each of the 1024 frequency bands, take 16 sequential time values and FFT them.
- you now have 16386 frequency bands, with complex voltages at a roughly 41us cadence.
- square each voltage and sum across 24 samples. This leaves 16384 bands of powers @ 0.98ms
- output these to a file somewhere