DSES Pulsar Observation Report: B1641-45

Date & Time (UTC): 20210808_015721
Observers: Dan Layne, Ray Uberecken, Richard Russel
Telescope: Deep Space Exploration Society (DSES) 60 ft. dish (18.3 m). Haswell, CO
Feed horn: 1420 Mhz, Single Polarization, Beamwidth = 0.81°
Receiver: USRP B210, Bandwidth = 40 Mhz. Frequency = 1420 Mhz, RF Gain = 44
Computer: System76, 16 core, Ubuntu 20.04
Software: Murmur (planning), GnuRadio (collection), PRESTO (folding and detection)
Run time: 1800 seconds (30 min)
Source name, Flux density: PSR B1641-45 (J1644-4559), S1400 = 300 mJy
Source RA, DEC (J2000): $16^h\ 44^m\ 49.2^s$; -45° 59' 09.7"

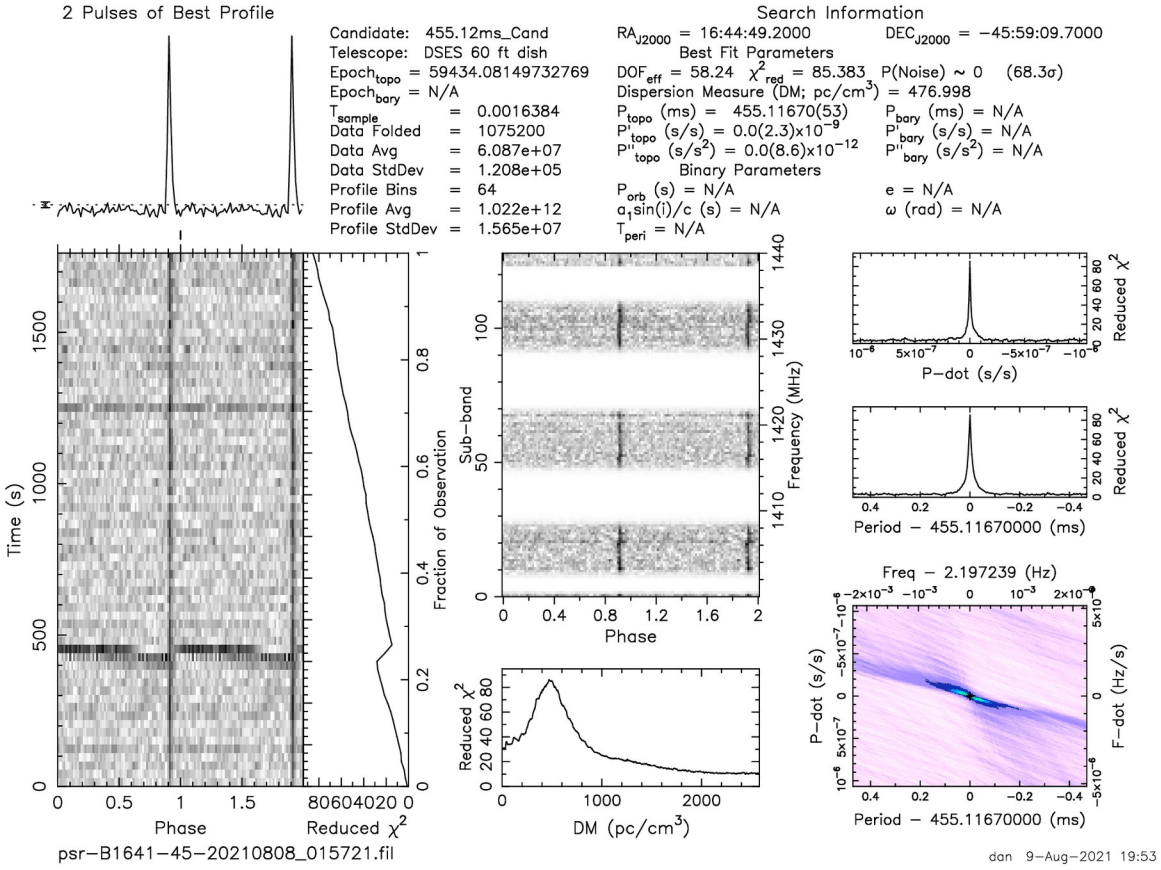

Figure 1: PRESTO plot for B1641-45

Discussion: This bright pulsar was just four degrees about the horizon for a few hours on August 8, 2021. We are tuning the receiving system following extensive repairs and upgrades.

DSES Pulsar Observation Report: B0329+54

Date & Time (UTC): 20210807_215545
Observers: Dan Layne, Ray Uberecken, Richard Russel
Telescope: Deep Space Exploration Society (DSES) 60 ft. dish (18.3 m). Haswell, CO
Feed horn: 1420 Mhz, Single Polarization, Beamwidth = 0.81°
Receiver: USRP B210, Bandwidth = 40 Mhz. Frequency = 1420 Mhz, RF Gain = 44
Computer: System76, 16 core, Ubuntu 20.04
Software: Murmur (planning), GnuRadio (collection), PRESTO (folding and detection)
Run time: 1200 seconds (20 min)
Source name, Flux density: PSR B0329+54 (J0332+5434), S1400 = 203 mJy
Source RA, DEC (J2000): $03^h\ 32^m\ 59.4^s$; +54° 34' 43.3"

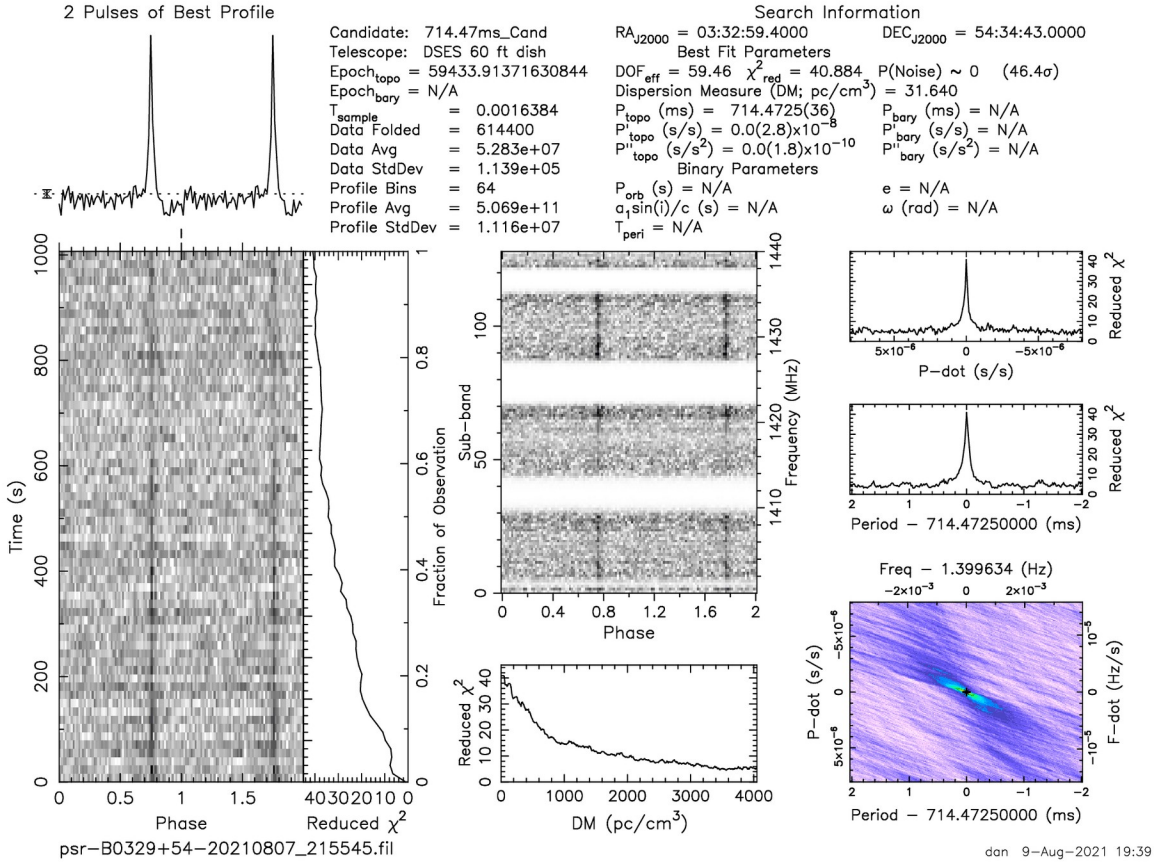

Figure 2: PRESTO plot for B0329+54

Discussion: This pulsar is routinely used to verify system performance. We also successfully detected B0950+08 and B1933+16 on August 8, 2021.