

Observational Procedure

The information regarding the ORT is given in the Appendix A. Please familiarize yourself with this information. The experiment involves observations of one of the following pulsars, where the Right Ascension and Declination (RA and DEC) are given in 1950 Epoch. Pulsars with asterisks are the ones selected for scattering experiment.

Serial No.	Pulsar Name	Right Ascension	Declination
1.	B0031-07	00h : 31m : 36.37s	-07° : 38' : 25.30"
2.	B0148-06	01h : 48m : 52.61s	-06° : 49' : 51.70"
3.	B0329+54	03h : 29m : 11.02s	+54° : 24' : 36.93"
4.	B0458+46 *	04h : 58m : 21.91s	+46° : 46' : 47.70"
5.	B0628-28	06h : 28m : 51.83s	-28° : 32' : 33.46"
6.	B0736-40 *	07h : 36m : 50.90s	-40° : 35' : 46.77"
7.	B0740-28	07h : 40m : 47.81s	-28° : 15' : 33.36"
8.	B0818-13	08h : 18m : 06.03s	-13° : 41' : 23.04"
9.	B0818-41 *	08h : 18m : 29.62s	-41° : 05' : 03.90"
10.	B0833-45 *	08h : 33m : 39.27s	-45° : 00' : 10.20"
11.	B0950+08	09h : 50m : 30.54s	+08° : 09' : 45.05"
12.	B1133+16	11h : 33m : 27.43s	+16° : 07' : 36.77"
13.	B1237+25	12h : 37m : 11.92s	+25° : 10' : 17.30"
14.	B1642-03	16h : 42m : 24.69s	-03° : 12' : 30.93"
15.	B1718-32 *	17h : 18m : 47.89s	-32° : 04' : 52.70"
16.	B1727-47 *	17h : 27m : 55.38s	-47° : 42' : 21.40"
17.	B1749-28	17h : 49m : 49.27s	-28° : 06' : 00.70"
18.	B1844-04 *	18h : 44m : 44.42s	-04° : 05' : 34.20"
19.	B1846-06 *	18h : 46m : 26.00s	-06° : 40' : 26.00"
20.	B1857-26	18h : 57m : 42.26s	-26° : 04' : 59.30"
21.	B1900-06 *	19h : 00m : 59.00s	-06° : 36' : 30.00"
22.	B1929+10	19h : 29m : 52.04s	+10° : 53' : 04.28"
23.	B1933+16 *	19h : 33m : 31.87s	+16° : 09' : 58.31"
24.	B1937+21	19h : 37m : 28.74s	+21° : 28' : 01.35"
25.	B1946+35 *	19h : 46m : 33.95s	+35° : 32' : 38.29"
26.	B2016+28	20h : 16m : 00.18s	+28° : 30' : 30.11"
27.	B2045-16	20h : 45m : 47.07s	-16° : 27' : 52.34"

Table 1: List of calibrator sources and offsources

Serial No.	source Name	Right Ascension	Declination	S327 (Jy)	Offsource RA (w.r.t source RA)
1.	3c43	01h : 27m : 15s	+23° : 25' : 36"	8.90	+30m East
1.	3c94	03h : 50m : 08s	-07° : 17' : 00"	11.80	+18m East
2.	3c175	07h : 10m : 15s	+11° : 52" : 18"	11.10	+53m East
3.	3c190	07h : 58m : 52s	+14° : 27' : 00"	10.20	+30m East
4.	3c228	09h : 47m : 25s	+14° : 30' : 00"	11.90	+30m East
5.	3c275	12h : 39m : 49s	-04° : 39' : 00"	12.20	+18m East
6.	3c318	15h : 17m : 51s	+20° : 27' : 36"	9.50	+30m East
7.	3c435	21h : 26m : 39s	+07° : 27' : 00"	9.90	+22m East

The procedure for the observations is given below

1. Convert the RA and DEC of the pulsar from 1950 epoch to the current epoch.
2. Find out the local sidereal time (LST) and estimate when the pulsar will be available for observations. Decide the time you will be observing the pulsar
3. Find the Hour Angle (HA) of the pulsar at the time of observations.
4. Position the ORT to the required HA and DEC at the time of observations.
5. Click on the icon "ort" displayed on the Desktop of the Pulsar machine. Select "PULSAR" mode for observations. In this mode, you have to enter the source name, observation length, and the directory name where you want to save the data and select from the options of the FSD, time resolution, output file type, etc. before starting the observation. Press the "SETUP" button, if you are ready for observation. After doing the setup, click on the "START" button to start the observation. Click on the "STOP" button, if you have to stop the observation in between due to some technical problems.
6. Take a standard calibrator and offsource that is available at the time of observation before taking the pulsar for calibrating the data.
7. Note down the time of observation, HA and the name of your data file in the observations log sheet provided with each experiments.
8. Repeat the above steps for other pulsars you wish to observe.
9. Do not perform any other analysis work with the system at the time of acquisition to make sure that the data quality is not compromised.
10. Do not fiddle with any switches in the pulsar receiver panel while observation is going on.