SHAO Summer Internship Logging: 3
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This was the third day of the internship, in brief, the *prepfold* error has fixed and two pulsar profiles have produced, it is a great step forward in stage one. Meanwhile, the first version of the project plan has been written and uploaded to github.

In details, we looked back at the source code of polycos.py. It is located */usr/local/astrosoft/presto/src/polycos.c.* In line 161, we discovered that the terminal has printed "Generating polycos …", so there is something wrong after that. In short, we discovered that a file called "temp.cfg" which is a configure file was missing inside the folder */usr/local/astrosoft/tempo.* After putting that file back to the folder, I got two pulsar profiles: J1921+2153-1095506112 and J1534-5334-1121173352. See attachment for the profiles.

Next, I will continue to re-produce pulsar profiles that have mentioned in Mengyao's paper. My goal is to complete this reproduction within this week, so we can start working on blind search in the second week.

Besides, Prof. An has suggested to share my logging and project plan with others for collaboration. I have agreed to this suggestion, and we have agreed we should finalize the documents before sharing with others. I hope all these documents would become a strong foundation for future pulsars research, and for my future research topics as well.

2 Pulses of Best Profile

Candidate: PSR_1921+2153
Telescope: MWA128T
$Epoch_{topo}$ = 56923.46898148148
$Epoch_{bary}$ = N/A
T_{sample} = 0.0001
Data Folded = 3840000
Data Avg = 2.374e+04
Data StdDev = 33.9
Profile Bins = 64
Profile Avg = 1.424e+09
Profile StdDev = 8304

Search Information

RA_{J2000} = 19:09:50.4000 DEC_{J2000} = 18:36:00.0000

Folding Parameters

DOF_{eff} = 60.48 χ^2_{red} = 86.905   P(Noise) ~ 0   (71.7σ)
Dispersion Measure (DM; pc/cm^3) = 12.459
P_{topo} (ms) = 1337.390(19) P_{bary} (ms) = N/A
P'_{topo} (s/s) = 0.0(3.8)x10^{-7} P'_{bary} (s/s) = N/A
P''_{topo} (s/s^2) = 0.0(6.3)x10^{-9} P''_{bary} (s/s^2) = N/A

Binary Parameters

P_{orb} (s) = N/A   e = N/A
$a_1 sin(i)/c$ (s) = N/A ω (rad) = N/A
T_{peri} = N/A

1095506112_0001.fits

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2 Pulses of Best Profile

Candidate: PSR_1534-5334
Telescope: MWA128T
$Epoch_{topo}$ = 57220.54331018519
$Epoch_{bary}$ = N/A
T_{sample} = 0.0001
Data Folded = 48640000
Data Avg = 4.014e+05
Data StdDev = 374.9
Profile Bins = 64
Profile Avg = 3.051e+11
Profile StdDev = 3.269e+05

Search Information

RA_{J2000} = 14:53:47.2999 DEC_{J2000} = −53:30:44.5651

Folding Parameters

DOF_{eff} = 60.48 χ^2_{red} = 75.028   P(Noise) ~ 0   (66.3σ)
Dispersion Measure (DM; pc/cm^3) = 24.912
P_{topo} (ms) = 1368.9677(19) P_{bary} (ms) = N/A
P'_{topo} (s/s) = 0.0(3.0)x10^{-9} P'_{bary} (s/s) = N/A
P''_{topo} (s/s^2) = 0.0(3.9)x10^{-12} P''_{bary} (s/s^2) = N/A

Binary Parameters

P_{orb} (s) = N/A   e = N/A
$a_1 sin(i)/c$ (s) = N/A ω (rad) = N/A
T_{peri} = N/A

1121173352_0001.fits

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