SHAO Summer Internship Logging: 2
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This was the second day of the internship, in brief, stage one has begun with using the command *prepfold* to fold *.fits* data files. There was an error about *polyco.dat* was missing, so no output files were received. While we are figuring out how to fix this problem, I continue to learn the basics of pulsar and play with PRESTO.

In details, the error is "Cannot copy polyco.dat in '/tmp/polycobR6KN1' to '/home/timothy/J1921+21531095506112/output/J1921+2153_nsch_PSR_1921+2153.pfd.polycos' make_polycos()" and "cp: cannot stat 'polyco.dat': No such file or directory". After discussion, we postulated that there is a parameter that delete the *.dat* file in */usr/local/astrosoft/presto/lib/python/polycos.py.* In particular, the function *create_polycos* has a parameter *keep_file=False*. The comment "keep_file: If true do not delete polyco.dat file. (Default: delete polyco.dat file)" would support such an argument. Mengyao argued that it may not be the cause since the "tz.in" file has kept in the folder. In line 270, '*os.remove("tz.in")*' did not execute, which there could be something wrong in the middle.

Again, our first goal is to find all the pulsars listed in Mengyao's paper or new pulsars in the corresponding observation ID (OID), *prepfold* is the key command to achieve this goal. Meanwhile, I have checked and listed all the OID that are not ready to access in */home/share/data/mwa_pulsar/ICS_data*.

Prof. An has suggested other good resources for radio pulsar investigation: CSIRO of Parkes telescope, Green Bank radio telescope in the US (specialize in FRB), Arecibo telescope in the US (found the millisecond pulsar in Crab Nebula and binary pulsar).

In addition, I am learning how does pulsar used as a tool to understand the Universe. In highlights, it helps with the following topics: theory of gravity, cosmological gravitational wave created by the Big Bang, and earth-like EXO planets. I have written a note and I will upload to github later. On the other hand, I am digging deeper into the method of observing pulsars, I will also write a note about it.

Since I found using GitLab is quite troublesome for me, I open a Github for myself: https://github.com/tinyautimothyyu/SHAO-PRSsearch-2018. All the logs and other documents can be accessed with this link.