

PRIDE_PPP_AR SOFTWARE

Short Report

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Finally, I installed and checked the PRIDE_PPP_AR software packages. There are some points for installing and using this package properly:

- It works fine in Ubuntu 18.04
- It does NOT install with gfortran 7 or 8. So I downgraded to gfortran 6 and it installed perfectly.
- The 'awk' or 'gawk' MUST install in OS otherwise a warning appear and it does not process.
- Sometimes due to unknown network problem it could not connect to the 'igs.gnsswhu.cn' ftp. So, at first, I opened the ftp in browser and after that I run the program without any network problem.
- The software is able to process RINEX observation files in the following modes:
 - Static (float and fixed ambiguity resolution with/without LAMBDA method)
 - Kinematic (float and fixed ambiguity resolution with/without LAMBDA method)
- It uses 3 days (yesterday, today, tomorrow) of precise ephemeris for processing each file.
- It downloads all required files from related online sources except the RINEX observation files. It should be downloaded manually.
- It identifies cycle slips, bad measurements and unhealthy satellites by using algorithms by Blewitt. Also it is possible to choose which satellite to be used in the processing strategies.
- It uses least square method to determine the position, residuals, zenith troposphere delays, receiver clock error, RINEX health diagnose files, ambiguities and normal matrix.

- It is possible to positioning multiple files by defining them in Config_template file before processing. This file is used to determine different options for processing.
- Ocean loading files should define manually.
- It is possible to determine the troposphere estimation piece wise constant and troposphere horizontal gradient in Config_template file.
- It only able to process GPS. The developer declared the GNSS processing will be available in the near future.
- It is possible to choose the ambiguity resolution method in Config_template file. LAMBDA method (LAMBDA in Config_template file), rounding method (FIX in Config_template file) and float (NO in Config_template file) is the possible options.
- **Important:** The Wuhan university only provides GPS phase bias and clock products for 2006-2016. So it is not possible to download clock products for other dates from their FTP sources at present. I want to perform PPP process for Perth IGS permanent station for the first day of 2019. I used clock and phase bias products from CODE ftp. It needed to modify the clock downloading part in pride_pppar shell script and MUST to compile the software again. It worked fine and process perfectly in all modes.