**Guide to download and install all necessary software and code for orbdetpy**

**(Windows Version)**

1. Download ordetpy from GitHub repo - https://github.com/ut-astria/orbdetpy
2. Install Python 3.6+ (32-bit version) - https://www.python.org/downloads/windows/
   1. Install numpy, scipy, cython, jnius, pyjnius, and matplotlib
3. Install Java Development Kit 8+ (32-bit version) - https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html
4. Add Environmental paths in Windows
   1. Variable name: JAVA\_HOME
      1. In path:
      2. C:\Program Files (x86)\Java\jdk1.8.0\_191
   2. Variable name: Path
      1. C:\Users\”USER”\AppData\Local\Programs\Python\Python37-32\Lib\site-packages\jnius
      2. C:\Program Files (x86)\Java\jdk1.8.0\_191\jre\bin\server
      3. C:\Program Files (x86)\Java\jdk1.8.0\_191\bin
5. Example Command line implementation:
   1. >cd Documents\ASTRIA\orbdetpy\examples
   2. >python testodet.py data/azel\_od\_cfg.json data/azel\_od\_input.json data/azel\_od\_output\_1.json
6. For the simulation files (testsim.py and plotsim.py) there is no input file to be used in the command line, as there are no measurements. The only arguments are the cfg.py and output.json

GIT BASH

(compile code)

cd Documents/ASTRIA/orbdetpy/java

./buildWindows.bash

(run code)

cd ../examples

python testodet.py data/azel\_od\_cfg.json data/azel\_od\_input.json data/azel\_od\_output\_1.json

python testodet.py data/radar\_od\_cfg.json data/radar\_od\_input.json data/radar\_od\_output\_1.json

python testodet.py data/radec\_od\_cfg.json data/radec\_od\_input.json data/radec\_od\_output\_1.json

python plotodet.py data/azel\_od\_cfg.json data/azel\_od\_input.json data/azel\_od\_output\_1.json

python plotodet.py data/radar\_od\_cfg.json data/radar\_od\_input.json data/radar\_od\_output\_1.json

python plotodet.py data/radec\_od\_cfg.json data/radec\_od\_input.json data/radec\_od\_output\_1.json

WINDOWS CMD

(run code)

cd Documents\ASTRIA\orbdetpy\examples

python testsim.py data/azel\_od\_cfg.json data/azel\_od\_input.json data/azel\_od\_output\_1.json

python plotsim.py data/azel\_od\_cfg.json data/azel\_od\_input.json data/azel\_od\_output\_1.json

python testodet.py data/posvel\_od\_cfg.json data/posvel\_od\_input.json data/posvel\_od\_output\_1.json

python plotodet.py data/posvel\_od\_cfg.json data/posvel\_od\_input.json data/posvel\_od\_output\_1.json