

Quality Assurance Report

getOrbitData.py

QA requested by: Sumit Agrawal

Date: 2/9/18

Reviewer: Sanket Chirame

Permanent links:

0. <https://github.com/sumitPhD/Advitiy-Control-Model/tree/master/unpack%20the%20folder%20to%20upload/All%20sgp%20files> {Folder}

1. <https://github.com/sumitPhD/Advitiy-Control-Model/blob/master/unpack%20the%20folder%20to%20upload/All%20sgp%20files/getOrbitData.py>

QA suggestions:

1. **Code:** Add descriptive comments at the start of the function describing input/output specifications as done in Readme file
2. **RM:** Mention units of TT, MS.
3. **Code:** Use line break in line 9, 48, 70 so that horizontal scrolling is not required while reading.
4. **Code:** Add import os statement
5. **RM:** Improve readme file to list all things that function does. Scope of function is very unclear to me. Also check for grammatical errors
6. **Code:** If I understand correctly, the check for existing file should be done prior to calculating sgp_fn(). In the current scenario sgp data is calculated regardless of presence of already saved file.
7. **RM:** Readme of getOrbitData TLE is incorrect.
8. **Code:** Conflicting definitions in line 46 and 47, 68 and 69. Variable N is not defined earlier
9. **Code:** Remove commented lines of code otherwise somebody might accidentally uncomment them.
10. **Code:** What's purpose of line 79?
11. Units aren't specified at many places, please fix that. Also add comments for each line eg. dT is N*1 vector with time etc. Comments should describe all variables. The science or techniques can be described in readme.
12. **RM:** References not provided. One reference could be TLE site etc. even though it might be in TOE readme

Implementation:

1. Added relevant comments for functions at line And ...
2. Mentioned units of TT, MS. TT in minutes and MS in seconds.
3. Code : added break lines
4. Added import os statement
5. Edited ReadMe file.
6. Edited in code to first check for the files and then if the file is not there then calculate for sgp.
7. Corrected Readme of getOrbitData TLE
8. Deleted line 46 and 68.
9. Removed commented lines of code (line 24 to line 39, line 52 and line 74)
10. Line 78 and 79 is written to call getOrbitData_TLE function and getOrbitData_OrbitElement function.
11. Mentioned units and written about variables.
12. Added references like Wikipedia links of sgp and TLE and celestrack sgp report.

Post-QA permanent links:

1. <https://github.com/sumitPhD/Advitiy-Control-Model/commit/3725bc91698033838880fb00e4ff72a093168cda>