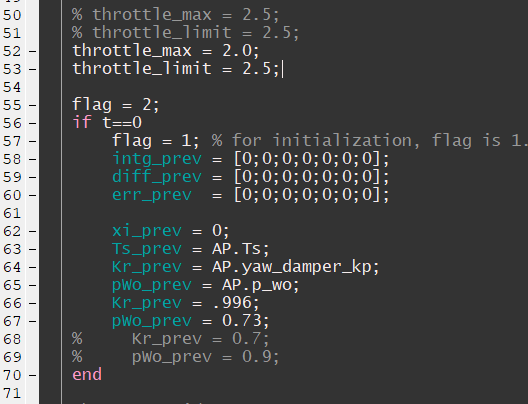
**Date**: 29/Jun/2020

**Author**: Nikhil Madduri (nikhil.madduri@gmail.com)

**..\e\_version\6\_ap+refinement\own\_rk4**

* It uses my own vtol\_dynamics+rk4+sixDOF rather than S-fucntion vtol\_dynamics.
* In this case, **flightgear integration** has been done for visuals.
* Open runfg.bat as administrator.
* Note that inside “vtolsim\_trim.slx” model, it used “vtol\_dynamics\_trim.m” file which is the old s-function.
* If you want to tune all the loops for the trimmed values, “**vtol\_parameters\_trim.m**” to generate trim values and then hardcode trim values in “**vtol\_parameters.m**“ file and again run “**vtol\_parameters.m**”. This second run will create all the transfer functions and state-space matrices. Then you can normally open roll\_loop.slx, pitch\_loop.slx as usual and trim them by setting design parameters in the file “**compute\_autopilot\_gains.m**”.
* Once all the design parameters are tuned in the file “**compute\_autopilot\_gains.m**”, open “**autopilot.m**” file and set the throttle, pWo\_prev and Kr\_prev as follows –



* Now run autopilot\_vtolsim.slx file after setting the input commands as follows –

