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**..\e\_version\6\_ap\testcases\results\case3\files\**

* To understand the background first refer to –

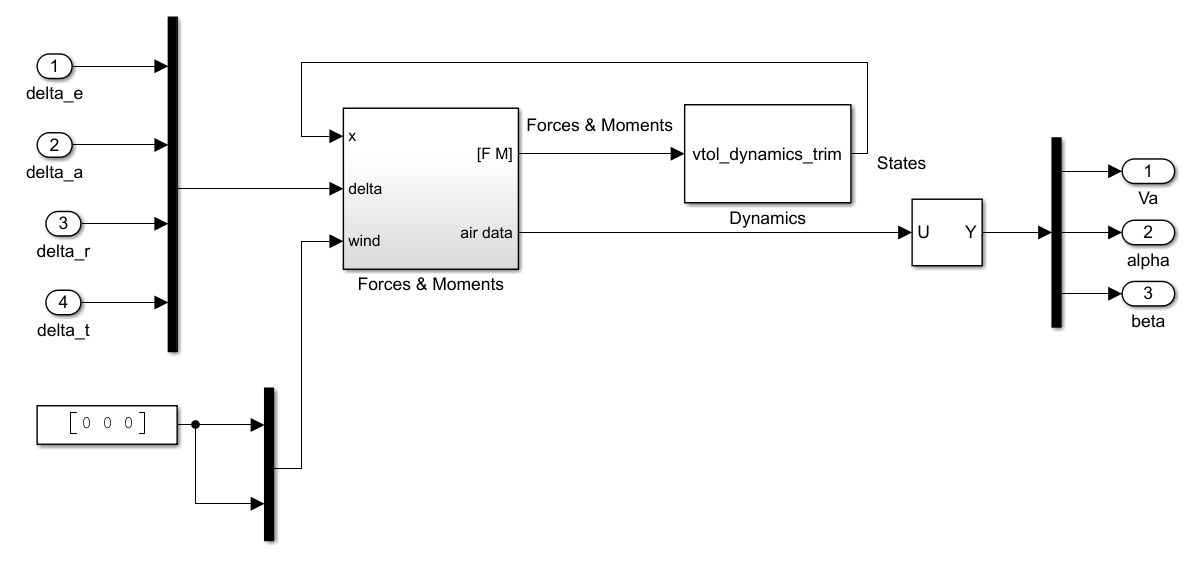
“..\e\_version\**5\_ldm**\testcases\3\_replacing\_S\_function\_with\_own\_rk4\”

In that we’ve seen that trimming is not working with own vtol\_dynamics that uses own rk4, sixDOF.

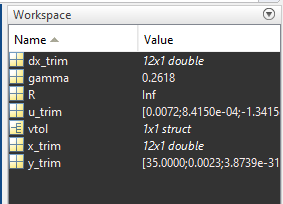
* Hence I’m using a **jugaad** of first trimming using S-function in vtol\_dynamics and then using my own vtol\_dynamics for the normal running of the code.
* The procedure for doing this is as follow—
  + Go to – “..\e\_version\6\_ap\testcases\results\case3\files\”
  + First run “>>**vtol\_parameters\_trim**”. This uses the file ***vtol\_parameters\_trim.m*** calls the following line –



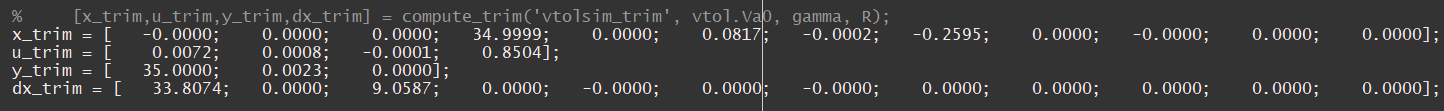
Which uses S-function type vtol\_dynamics block (old)—



* + Using the above old model of vtol\_dynamics, it will create the following parameters—

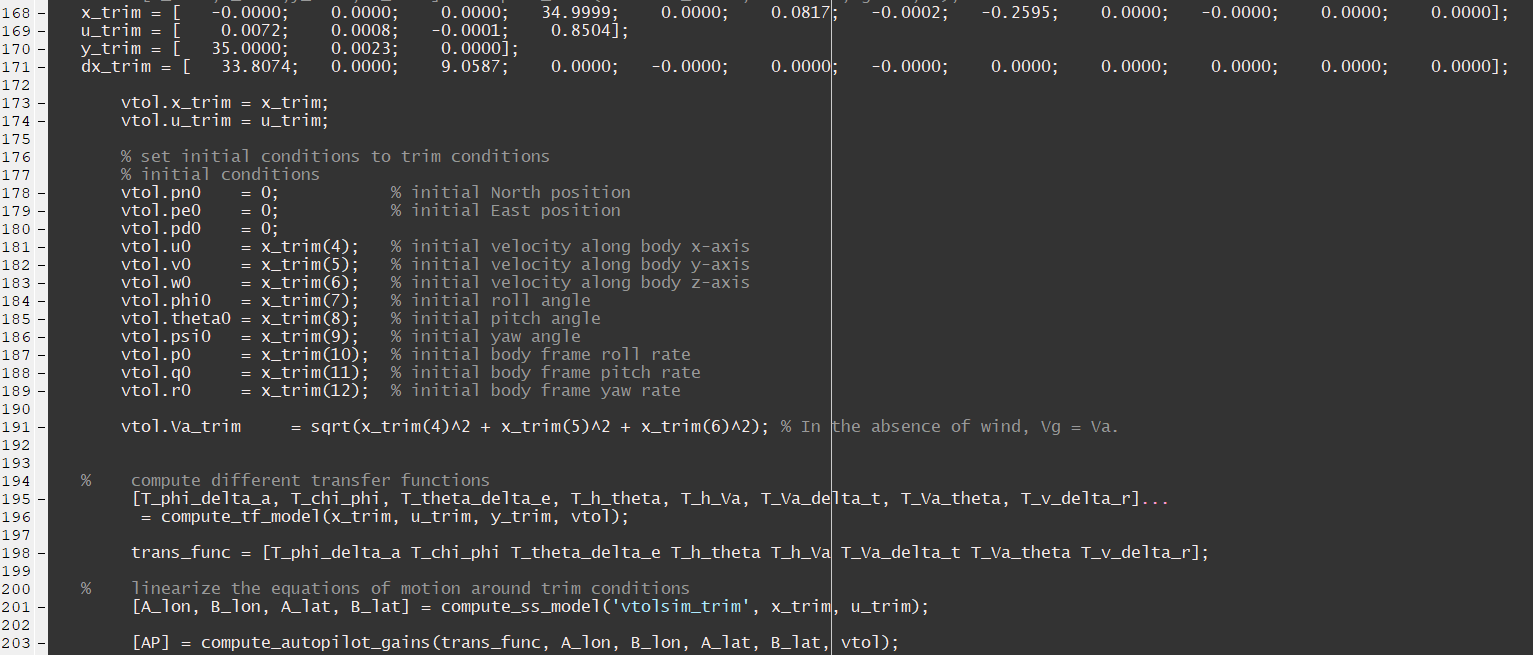


* + Now hard code **x\_trim, u\_trim, y\_trim, dx\_trim** in the file ***vtol\_parameters.m*** as shown –

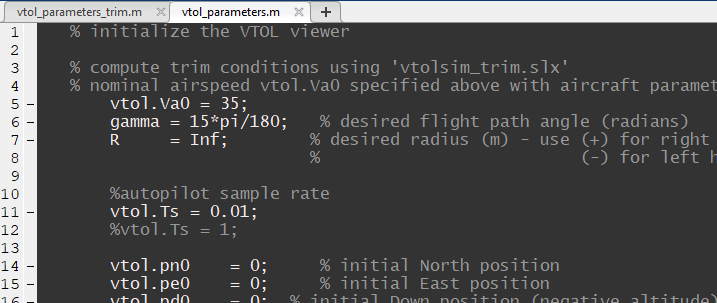


This can be done easily by double click on say x\_trim variable in workspace and selecting all the cells in which numbers are filled and simply pasting into ***vtol\_parameters.m***.

* + Following lines of code will use the above trim values –



* + Note that each time you change the initial values in the below lines –



you will have to generate new trim values first using ***vtol\_parameters\_trim.m*** andhard code them inside ***vtol\_parameters.m.*** For example if you set vtol.Va0 = 45 m/s, then you’d have to again do trimming and change the hard coded values.

* + Once the trimmed inputs are hard coded into ***vtol\_parameters.m***, simply open autopilot\_vtolsim.slx, set the input commands (airspeed, altitude, roll, course etc) and run the model –

