

The purpose of this document is to record what was done to enable the classical, transient (2-1axis), sub-transient, and NEW sub-transient machine PST models to use the structured global variable g and other ‘clean up’ actions taken.

Each paragraph describes the required changes to the PST file.

Initial globals:

```
%% Original globals block condensed into g...
%% synchronous machine variables
global mac_con mac_pot mac_int ibus_con
global mac_ang mac_spd eqprime edprime psikd psikq
global curd curq curdg curqg fldcur
global psidpp psiqpp vex eterm theta ed eq
global pmech pelect qelect
global dmac_ang dmac_spd deqprime dedprime dpsikd dpsikq
global n_mac n_em n_tra n_sub n_ib
global mac_em_idx mac_tra_idx mac_sub_idx mac_ib_idx not_ib_idx
global mac_ib_em mac_ib_tra mac_ib_sub n_ib_em n_ib_tra n_ib_sub
global pm_sig n_pm
```

Modified globals:

```
global g
% as g.mac.
```

mac__indx

- added g to related machine variables
- updated internal function documentation

handleNewGlobals.m

- added if statement to check for mac__con and ibus__con

s__simu__Batch.m

- added g to related machine variables

svm__mgen__Batch

- added g to related machine variables

i__simu

- added g to related machine variables n__mac and theta

livePlot

- added g to related machine variables mac__spd

mac_em

- removed dummy return value
- added g to related machine variables
- updated internal function documentation

mac_sub

- removed dummy return value
- added g to related machine variables
- updated internal function documentation

mac_sub_NEW

- removed dummy return value
- added g to related machine variables
- updated internal function documentation

mac_tra

- removed dummy return value
- added g to related machine variables
- updated internal function documentation
- removed comments so that `x'd==x'q` - was causing initialization errors.

mac_trip_logic

- added g to related machine variables

ns_file Should be functionalized... (?)

- added g to related machine variables (mostly `mac_int`)

p_cont Should be functionalized...(?)

- added g to related machine variables

p_file Should be functionalized... (?)

- added g to related machine variables

p_m_file Should be functionalized...

- added g to related machine variables

red_ybus

- added g and appropriate prepending to related machine variables

smpexc

- added g to related machine variables
- updated internal function documentation

smppi

- added g to related machine variables
- updated internal function documentation

exc_dc12

- added g to related machine variables
- updated internal function documentation

exc_st3

- added g to related machine variables
- updated internal function documentation

tg

- added g to related machine variables