mkdir mygrid                              # The gridcode will dump the runs in whatever folder you run it in, so you need to make a new directory for the run beforehand

cd mygrid

screen -S MappingsGrid                    # start up a screen instance to start the run in. Format is "screen -S <name>", you can use whatever name you like

ipython                                   # start ipython (the next commands are run in ipython)

import MappingsV18\_S5Grid\_Generic         # import gridcode

import numpy as np                        # import numpy (we need it to define the density step)

                                          # define the grid parameters (below)

mr=MappingsV18\_S5Grid\_Generic.MapRun("/home/lhainsw/DansGrid\_Jun9\_21/nooffset.txt",5,np.power(10,1/10),160,220,0.1,np.power(10,5.5),abund="Solar",IT=6,logdens=True,cores=14)

mr.run()                                  # start the grid

CTRL-A CTRL-D                             # press A then D without releasing CTRL: disconnects from the screen (it will keep running in the background)

To reconnect to the screen to check on how the run is going, use:

screen -r MappingsGrid  

(if you forget the name you can use "screen -l" to see all open screens, or the command will work as just "screen -r" if only one screen is open)

To close the screen when the run is complete, use CTRL-D to close ipython and then CTRL-D again to close the screen terminal. It will exit out to original terminal you connected from

My Runs

*12/14/22 @ 11 PM eastern*:

* Offset\_path: /home/lhainsw/DansGrid\_Jun9\_21/nooffset.txt
* dV: 1.5 km/s
* dN: with log on, we have to take it as log(dN) = 1.5
* V\_init: 20
* V\_final: 62
* Density\_init: 10^5
* Density\_final: 10^7
* Num\_iterations (IT): 6
* Num\_cores: 14
* Abundances: ‘HM89’
* Logdens = True
* Keeptime = True

Ran command:

mr=MappingsV18\_S5Grid\_Generic.MapRun("/home/lhainsw/DansGrid\_Jun9\_21/nooffset.txt",2,1.5,20,62,1e5,1e7,abund="HM89",IT=6,logdens=True,cores=14, keeptime=True)

Path to run: /media/data/arubinst/MAPPINGS\_RUNS/v18\_s5grids\_generic/dV1p5\_dN1500\_Vi20\_Vf62\_rhoi1e5\_rhof1e7\_hm89\_iter6/

**END**: Broke (cannot use fractional values of dV, dN

*12/20/22 @ 12:23 PM eastern*:

Same parameters but last command broke (specifically setting dV to not a float…this broke one of the setup and saving files when we took int(V+dV), which should be solved by doing int(float(V+dV))? Meanwhile, repeating:

mr=MappingsV18\_S5Grid\_Generic.MapRun("/home/lhainsw/DansGrid\_Jun9\_21/nooffset.txt",3,1.5,20,62,1e5,1e7,abund="HM89",IT=6,logdens=True,cores=14, keeptime=True)

mr.run()                                  # start the grid

Path to run: /media/data/arubinst/MAPPINGS\_RUNS/v18\_s5grids\_generic/dV3\_dN1500\_Vi20\_Vf62\_rhoi1e5\_rhof1e7\_hm89\_iter6/nooffset.txt

**END**: ~2 days

*12/22/22 @ 12:30 AM eastern*:

* Needed finer spacing…
  + Repeat with a grid spacing dV = 2 km/s (rather than 3) w/ density 5.6 to 7 with dN=0.1
  + High speeds -> Radiative precursors require higher iterations -> ~5 iterations; for this, we only need a few (say 3)
  + The higher speeds reminds us to make another run – to try the solar abundance model at high speeds also with higher abundances (may need more iterations and Liam’s help)

mr=MappingsV18\_S5Grid\_Generic.MapRun("/home/lhainsw/DansGrid\_Jun9\_21/nooffset.txt",2, np.power(10,1/10),20,62,10\*\*(5.6),1e7,abund="HM89",IT=3,logdens=True,cores=15, keeptime=True)

So mkdir dV2\_logdN0p1\_Vi20\_Vf62\_rhoi1e5p6\_rhof1e7\_hm89\_iter3/

Path to run:

/media/data/arubinst/MAPPINGS\_RUNS/v18\_s5grids\_generic/dV2\_logdN-1\_Vi20\_Vf62\_rhoi1e5p6\_rhof1e7\_hm89\_iter3/

mr.run()                                  # start the grid

**END**:

Xx/xx/xx @ xx:xx xM eastern: