I'm using the Glasser (hcp-mmp) ROIs to limit the memory overhead. Using nibabel I can load specific voxel time courses without loading the whole file (120 gb). I used 10 layers, but I also have 3 layer version--plots not included here.

The "layer profiles" need some more work, but I intend to duplicate some of the plots Renzo includes in his paper. Red horizontal bars in the layer profiles are "rest" periods, but I haven't used this to calculate the %CBV change yet across layers.

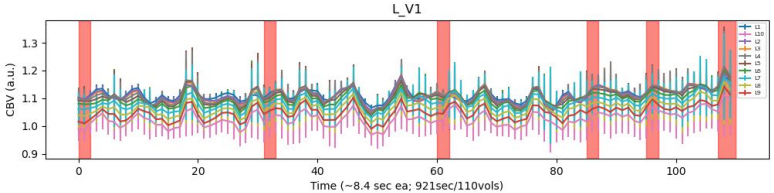
The correlation analysis is going well. I have some different distance measures (cosine, pearson). I also have some code for building "neural dissimilarity matrices" and calculating the correlation between ROIs/layers using a kind of multivariate variation. I haven't included these plots. The main issue here is that I don't have a good way to visualize these results--too many plots. I was thinking that using 3 layers would simplify things and then using a circular graph to visualize significant ROI1-output to ROI2-input connections, but I haven't done this yet.

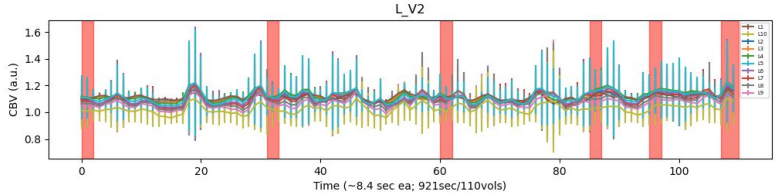
The ROIs I did include in the plots are:

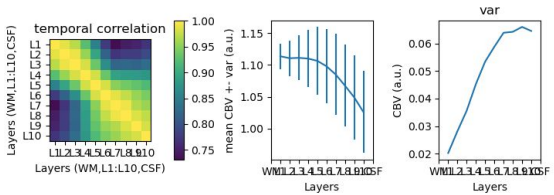
- an early visual (L_thalamus L_V1 L_V2 L_V3 L_V3A)
- thalamus parcellation+early visual (L_thalamus L_V1 L_V2 L_V3 L_V3A L_V3B L_V3CD L_V4 L_V4t L_V6)
- thalamus+temporal lobe ROIs (L_TGd L_TGv L_TE2a L_TE2p L_TE1a L_TE1m L_STSvp L_STSdp L_STSva L_STSda L_STGa L_TF)

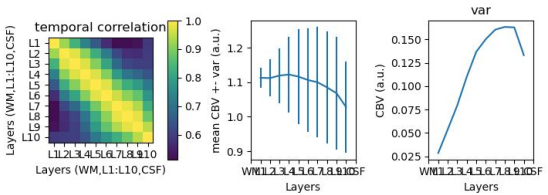
I did start looking into downloading hcp data to identify networks and to help constrain the VASO layer analysis, but I haven't made too much progress on this.

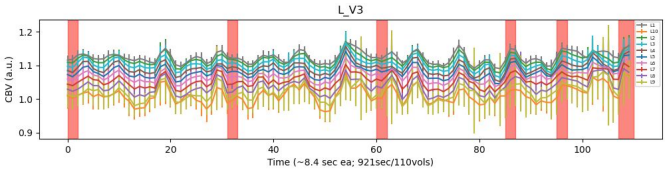
Right now, I'm thinking that I should be working with the hcp data to find a model network that we can then evaluate using the VASO data. Does this sound good? Here is the github for the code (https://github.com/rlk41/laminar_fmri) and I can upload extracted time courses to Box if you'd like.

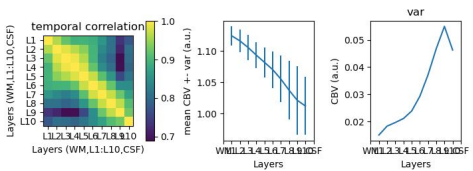

L_V1
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)

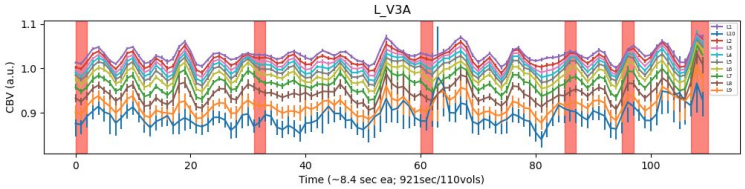

L_V2
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)

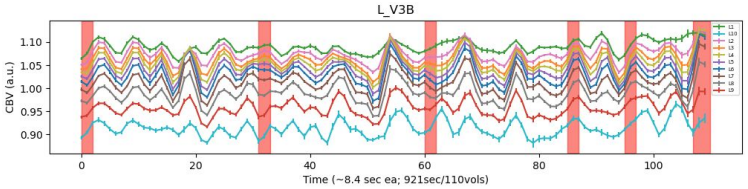

temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
Layers
var
CBV (a.u.)
Layers

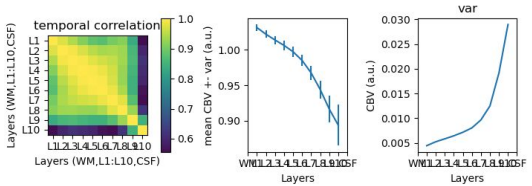

temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
Layers
var
CBV (a.u.)
Layers

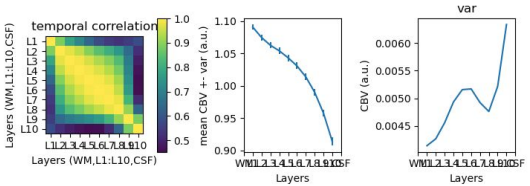

L_V3
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)

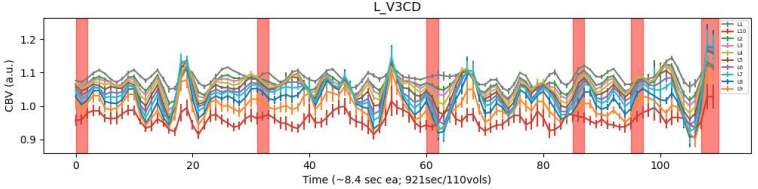

temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
Layers
var
CBV (a.u.)
Layers

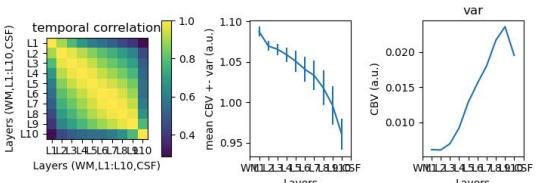

L_V3A
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)

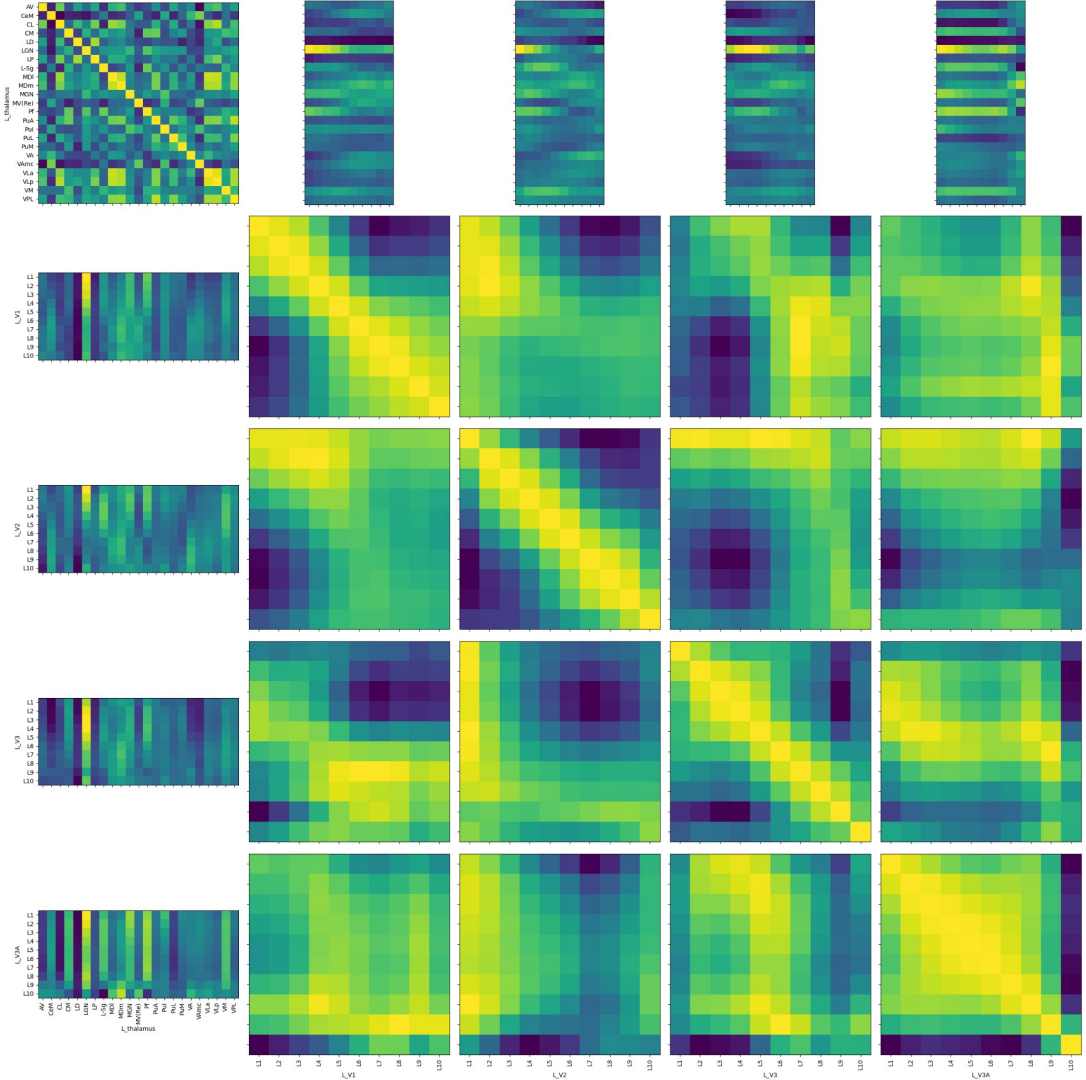

L_V3B
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)


temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
var
CBV (a.u.)
Layers


temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
var
CBV (a.u.)
Layers


L_V3CD
CBV (a.u.)
Time (~8.4 sec ea; 921sec/110vols)


temporal correlation
Layers (WM,L1:L10,CSF)
mean CBV +- var (a.u.)
var
CBV (a.u.)
Layers


AV
CeM
CL
CM
LD
LGN
LP
L-Sg
MGN
MDm
MGN
MV(Re)
Pf
PuA
Pul
PuL
PuM
VA
VAmc
VLa
VLp
VM
VPL
L_thalamus
L_V1
L_V2
L_V3
L_V3A
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10