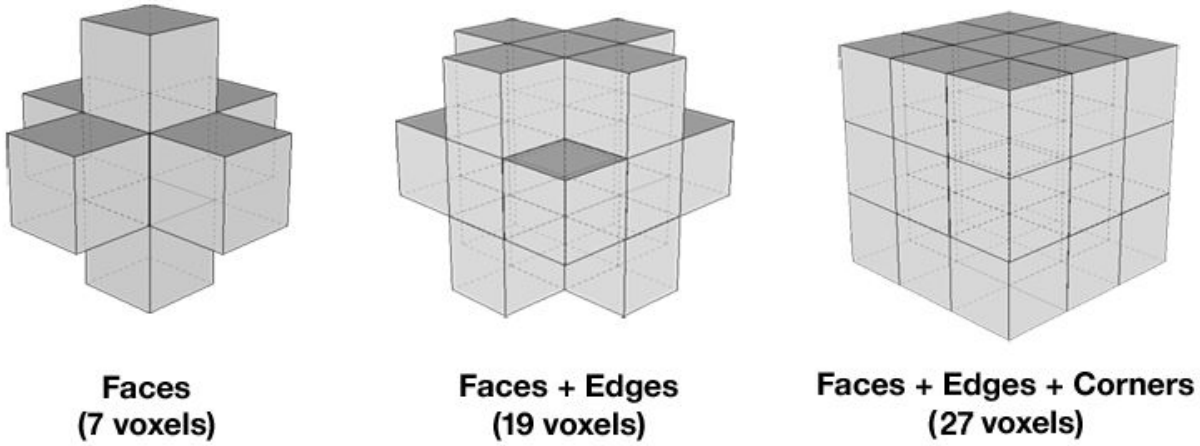
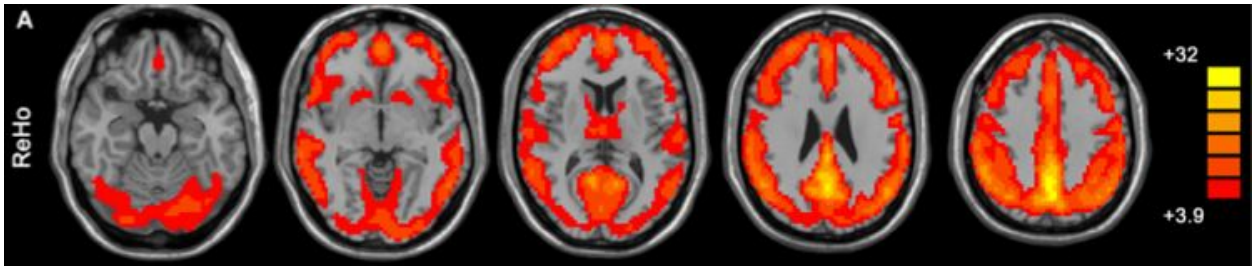
Resting-state functional activity measures

ReHo: Regional Homogeneity(ReHo) is one kind of brain activity measure which is calculated for voxels. For one voxel the ReHo is calculated as the similarity between the time series of that voxel and its neighbour voxels. The similarity is calculated using Kendall's coefficient of concordance(KCC). As an example if we consider a cluster of 27 neighbours(3*3*3). Then the ReHo of the center voxel is calculated as the similarity between the time series of that voxel and rest of the voxels in that neighbourhood.





The figure above (taken from Yan and Zang, 2010) shows the default mode network as detected by ReHo analysis (colors indicate *t* values).

Website: https://fcp-indi.github.io/docs/user/reho.html

VHMC: Voxel-Mirrored Homotopic Connectivity(VMHC) is homotopy through a voxel-wise connectivity of two hemispheres. The morphological symmetry between two hemispheres is assumed. The calculation of the connectivity is measured between each voxel in one hemisphere and it's mirrored counterpart of the other hemisphere. To ensure the morphological symmetry property symmetric anatomical volume is created averaging anatomical volume with mirrored version.