Correlated Noise Bias analysis

tests were run on 3 scans of resting state data. Each scan had 128 time samples and a volume of 92x112x32 voxels

I used the Design matrix of a slow ER paradigm (5 different event types separated by 4-12 s) from another scan and computed different contrasts and f-test for two different models

- Model 1 is the model in which each EV is a condition
- Model 2 is the Main effect model in which the first EV represents all the events and EVs 2 to 5 represent the difference between different events (in the context of somatosensory experiments, digits 2-5 and digit 1)

two parameters were studied

- the type of correction
- the size of the voxel set on which the covariance matrix of the residual is estimated (within-slice square of side = 1 to 50 voxels around each voxel)

Computing times

<table>
<thead>
<tr>
<th></th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>covariance correction</td>
<td>2h36</td>
</tr>
<tr>
<td>Generalized Least Squares</td>
<td>6h42</td>
</tr>
<tr>
<td>Pre-Whitening</td>
<td>9h58</td>
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</tbody>
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Effect of different corrections and spatial extent of the covariance matrix estimation

Model 1
Model 2