

the probability distribution resulting from  $p$  sampling/testing (on the chosen pixels) permutations of the resulting data does not yield a good estimate of the probability of observing the effect in the study (evaluated on the chosen pixels) (i.e. with the permutation  $\pi = id$ ).

@ decreasing type II error  $\beta$ : Assuming there is an effect (i.e. the alternate hypothesis is true)

any modification that increases the probability of rejection the null hypothesis is decreasing  $\beta$ . So if we overestimate effects (as the method of Prof. E. Genies is suggesting), we decrease the type II error (assuming null hypo. wrong and alternate hypo. true.).

addendum: <sup>a)</sup> (ii) ~~we~~ might have the advantage of being easier to compute (than comparing the entire brain)  
- we use pixel = voxel interchangeable in (ii)

(i) <sup>a)</sup> method		pros	cons
cluster-wise-permutation		no assumption on autocorrelation	slow/non-deterministic for given data
cluster-wise-RFT		assume squ. exp. decay of autocorr.	fast/deterministic for given data
(ii) method		pros	cons
cluster-wise-permutation		spatial effect size taken into account	arbitrary thresholding
voxel-wise-permutation		spatial effect size not taken into account	no arbitrary thresholding