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Supplemental information

Effects of beta-band and gamma-band rhythmic stimulation on motor inhibition

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Table S1. Subjective level of discomfort and fatigue based on Visual Analog Scale ratings. Related to Table 1.

Subjective rating between 1-10		20Hz session	70Hz session	Statistics			
				df, Error df	Main effect of frequency (20Hz, 70Hz)	Main effect of time (pre, post)	Interaction
Discomfort		1.35±1.8	0.66±1.3	1,30	F=2.64 p=0.12		
Fatigue	pre	2.40±1.9	2.56±1.6	1,95	F=0.01 p=0.93	**F=48.23 p<0.001**	F=0.46 p=0.50
	post	4.53±2.1	4.34±2.2	1,95			

Mean ± standard deviation is reported.

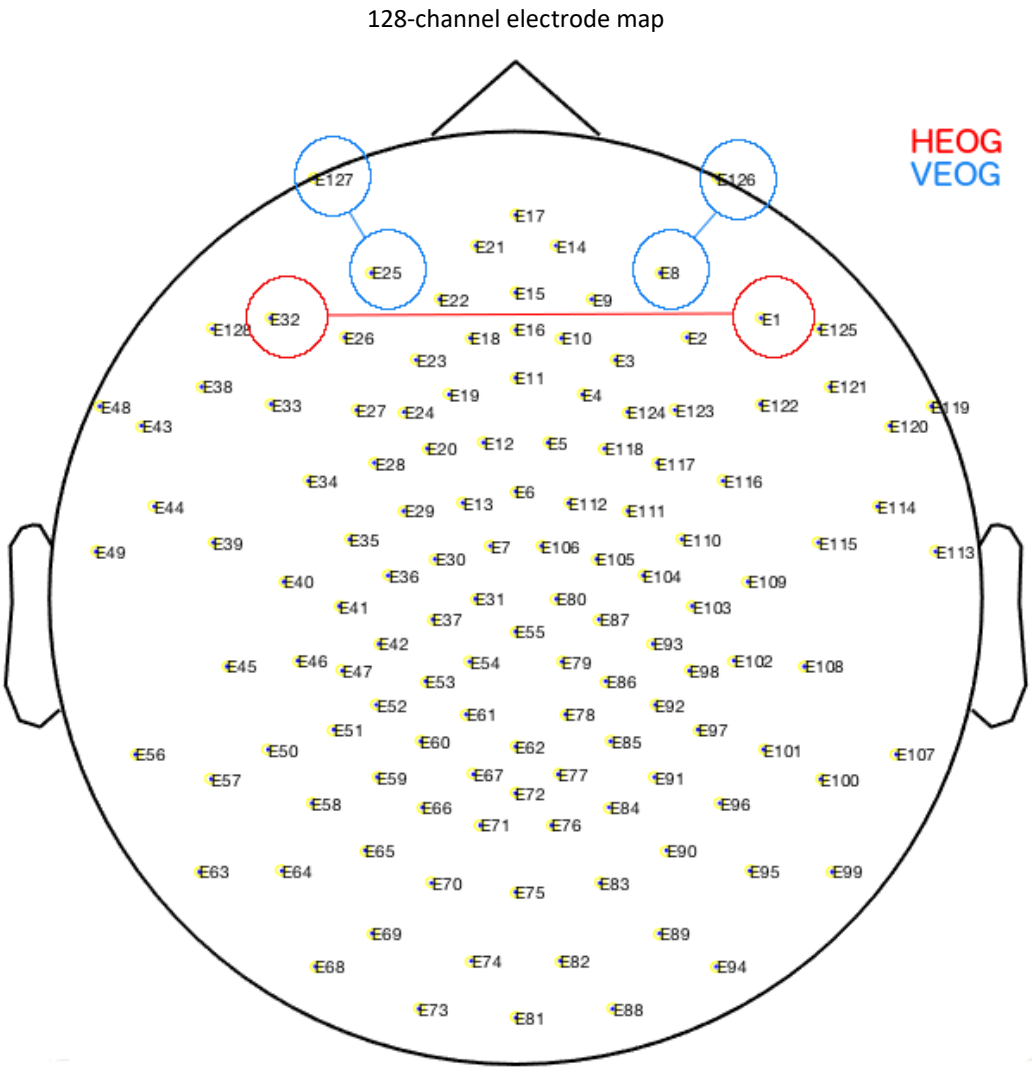

Figure S1. Electrooculogram definition, related to STAR Methods: EEG analysis. By linearly combining EEG signals collected from the 128-channel geodesic net we obtained the horizontal electrooculogram (hEOG) and the vertical electrooculogram (vEOG).

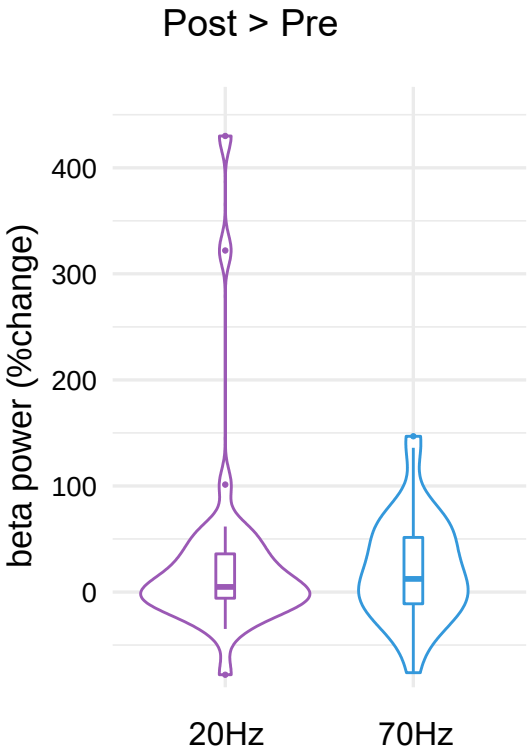

Figure S2. Power differences in pre- vs post-tACS resting EEG measurements (N=35), related to Figure 6: EEG results. The figure shows that beta oscillatory power at rest was enhanced after 20Hz tACS (pre- versus post-test: V=418, p=0.039). However, this effect was also present in the 70Hz stimulation condition (V=467, p=0.012), and the change in beta power from pre- to post-stimulation did not differ between the two stimulation frequencies (V=276, p=0.723. This could mean that the increase in beta power is due to general processes such as performing the task, or that 70Hz stimulation influenced beta power.

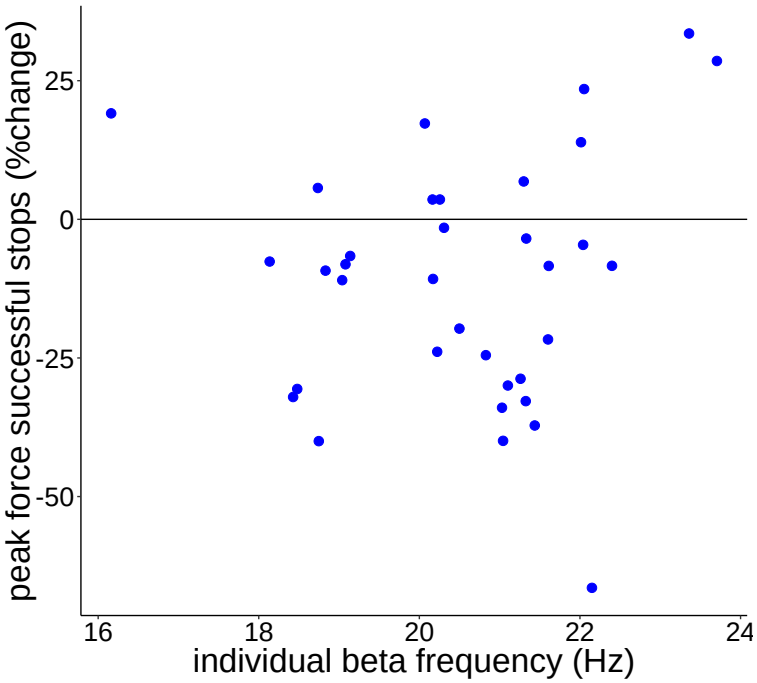

Figure S3. Individual beta peak frequencies, related to Figure 6: EEG results. Estimated individual beta peaks based on pre-stimulation resting EEG at electrode Fz plotted against percent change in peak force on successful stop trials with 20Hz stimulation. Participants that fall within the grey shaded area (i.e. within 2Hz from the stimulation frequency) tend to show improved inhibitory performance during 20Hz stimulation (N=35).