Time-course of coherence in the human basal ganglia during voluntary movements

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Supplementary Table

Age	Site	Predominant symptoms pre-operatively	Medication (dose/day, LED/day in PD)	Therapeutic DBS settings	DBS pair used in the analysis
49	GPi	Cervical dystonia, pain in neck and rest of body.	-	RGPi 2.7 V/60 μs/130 Hz/ (1-, C+); LGPi 2.6V/60 μs/130 Hz/ (5-, C+)	2-1, 6-5
58	GPi	Cervical dystonia, pain in neck	clonazepam 1.5 mg, gabapentin 1800 mg, nor-triptyline 400 mg, lorazepam 3 mg, codeine	RGPi 2.9V/60μs/130 Hz/ (2-, C+); LGPi 4V/60μs/130Hz/ (5-, C+)	2-1, 6-5
52	GPi	Cervical dystoina with right laterocollis and retrocollis, pain	Clonazepam 2mg, citalopram 40 mg	RGPi 3.0V/60μs/130Hz/ (3-, C+); LGPi 2.9V/90μs/130Hz/ (6-, C+)	2-3, 5-6
53	GPi	Cervical dystoina with left torticollis	Lorazepam 12mg	LGPi 3V/60μs/130Hz/ (2-, C+); RGPi 1.8V/60μs/130Hz/ (6-, C+)	2-1, 5-6
88	GPi	Right hemidystonia	clonazepam 3 mg	LGPi 2.5V/60μs/60Hz/ (5-, C+)	
45	GPi	Dopa-responsive dystonia of the right leg, gait impair-ment	1090 mg	RGPi 1.4V/60μs/130Hz (3-, C+); LGPi 4.0V/60μs/130Hz/ (7-, C+)	2-3, 6-7
44	GPi	Orofacial dystonia/Cranio-cerfical dystonia/Meige's syndrom + pain	Lorazepam 3mg	RGPi 4.3V/60μs/130Hz (1-2-, C+); LGPi 3.3V/120μs/130Hz (7-, C+)	2-1, 6-7
54	STN	Longer OFF periods, freezing	1000 mg	RSTN 4.0V/60μs/80Hz, (3-, C+); LSTN 4.4V/60μs/80Hz/ (6-, C+)	2-3, 5-6
65	STN	PD	600 mg	RSTN 3.4V/60μs/185Hz/ (2-, C+); LSTN 3.2V/60μs/185Hz/ (6-, C+)	2-1, 5-6
50	STN	Tremor dominant PD	1200 mg	RSTN 3.8V/60μs/160 Hz/ (1-, C+); LSTN 2.8V/60μs/160 Hz/ (5-, C+)	2-1, 5-6
50	STN	PD	1100 mg	RSTN 3.0V/60μs/130 Hz/ (2-, C+); LSTN 3.4V/60μs/130Hz/ (7-, C +)	2-1, 6-7
56	STN	Tremor dominant PD	1800 mg	RSTN 2.8V/90μs/185Hz/ (2-, C+); LSTN 3.8V/90μs/185Hz/ (7-, C+)	2-1, 6-7
44	STN	Tremor dominant PD	850 mg	RSTN 2.1V/60μs/130Hz/ (2-, C+); LSTN 2.3V/60μs/130Hz/ (5-, 6+)	2-1, 6-5

Table S1. Clinical details of the patients studied.

Supplementary Figures

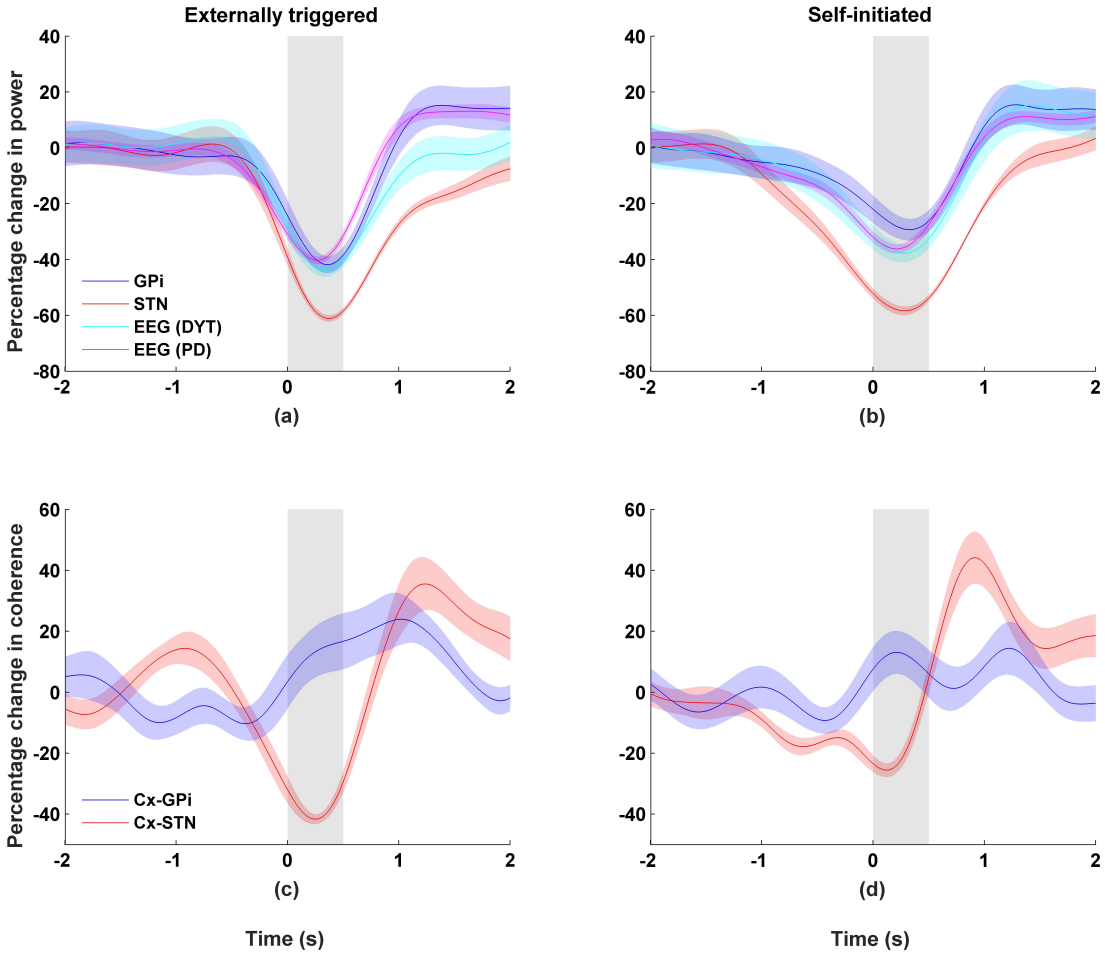

Figure S1. Beta band activity recorded from the side ipsilateral to the moving wrist. Movement duration indicated by grey area and shaded areas show standard errors. Left column indicates externally triggered task; right column the self-initiated task. Percentage changes for beta band (65-80Hz) showing (a/b) power (c/d) coherence between cortex-GPi or cortex-STN.

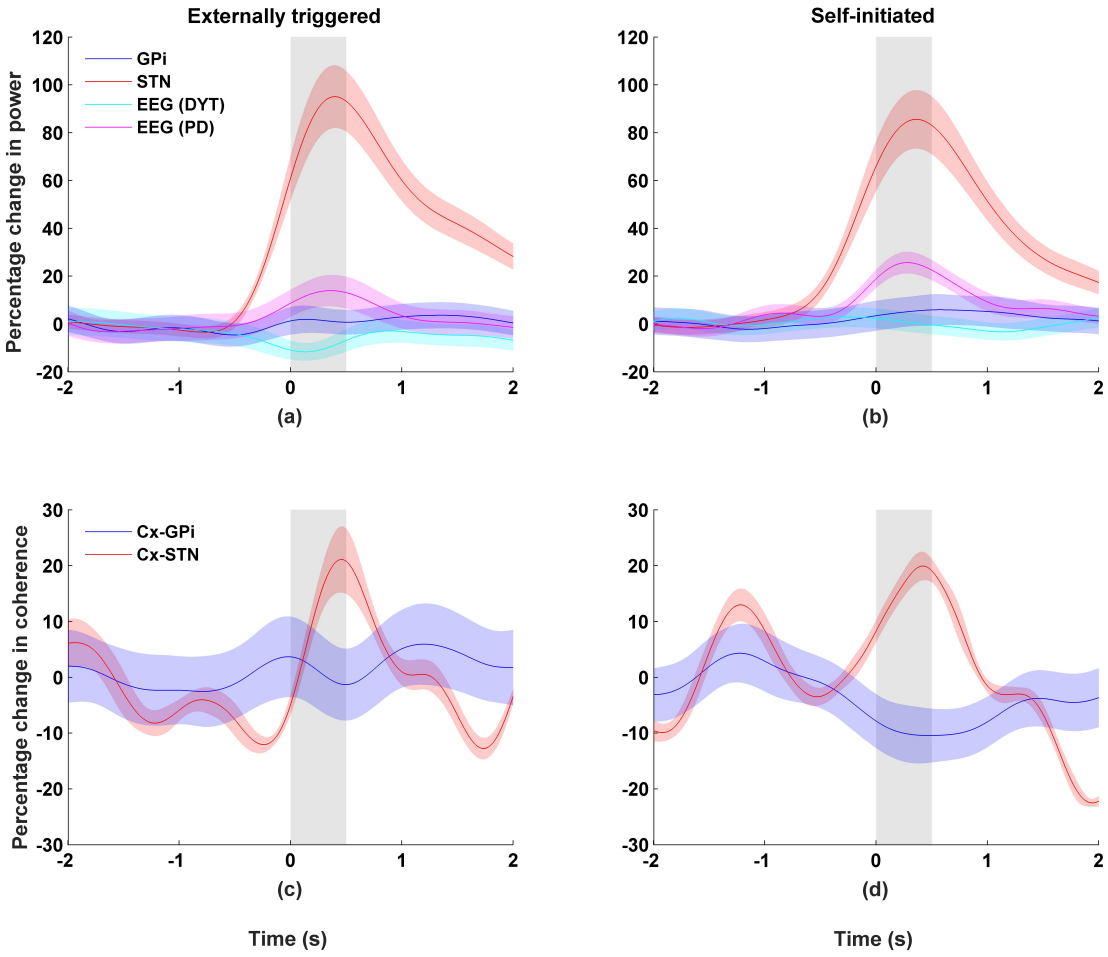

Figure S2. Gamma band activity recorded from the side ipsilateral to the moving wrist. Movement duration indicated by grey area and shaded areas show standard errors. Left column indicates externally triggered task; right column the self-initiated task. Percentage changes for beta band (65-80Hz) showing (a/b) power (c/d) coherence between cortex-GPi or cortex-STN.

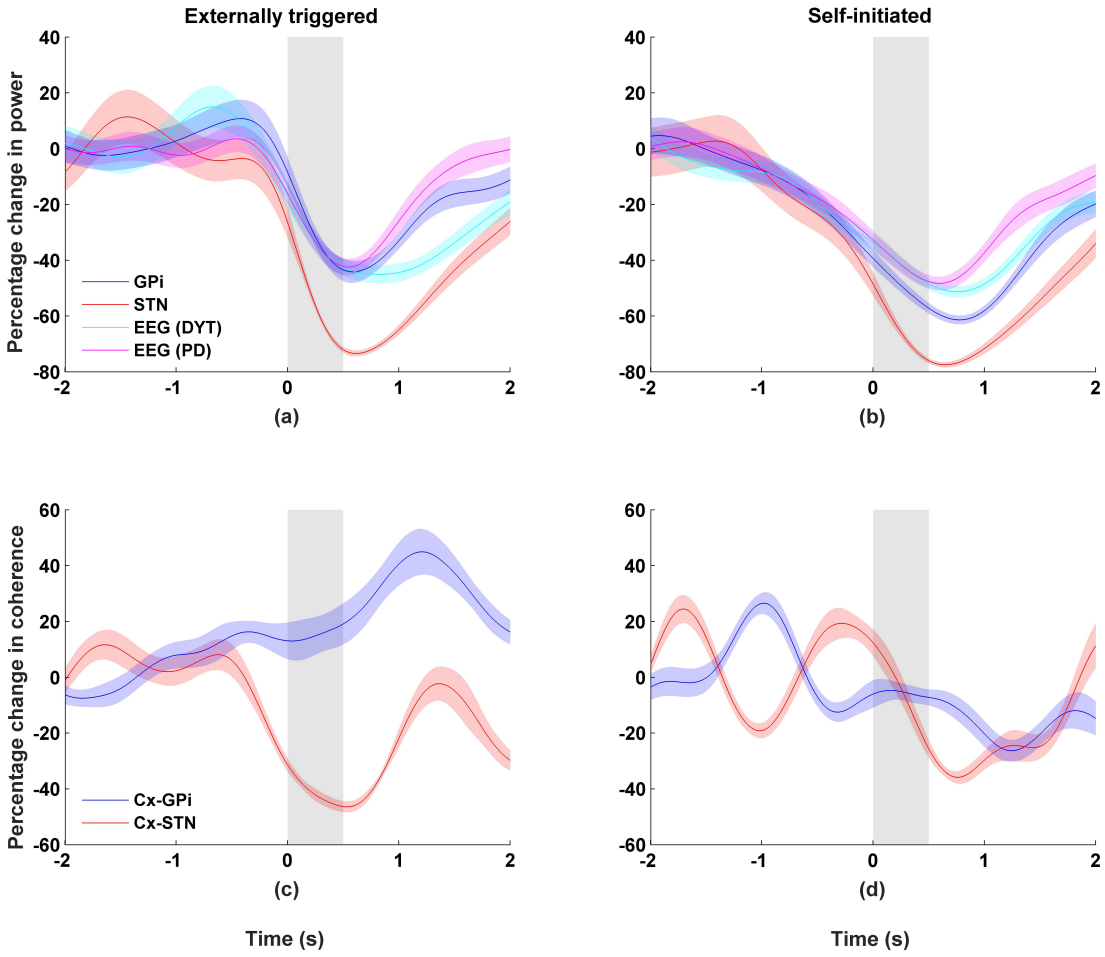

Figure S3. Alpha band activity recorded from the side ipsilateral to the moving wrist. Movement duration indicated by grey area and shaded areas show standard errors. Left column indicates externally triggered task; right column the self-initiated task. Percentage changes for beta band (8-12Hz) showing (a/b) power (c/d) coherence between cortex-GPi or cortex-STN.

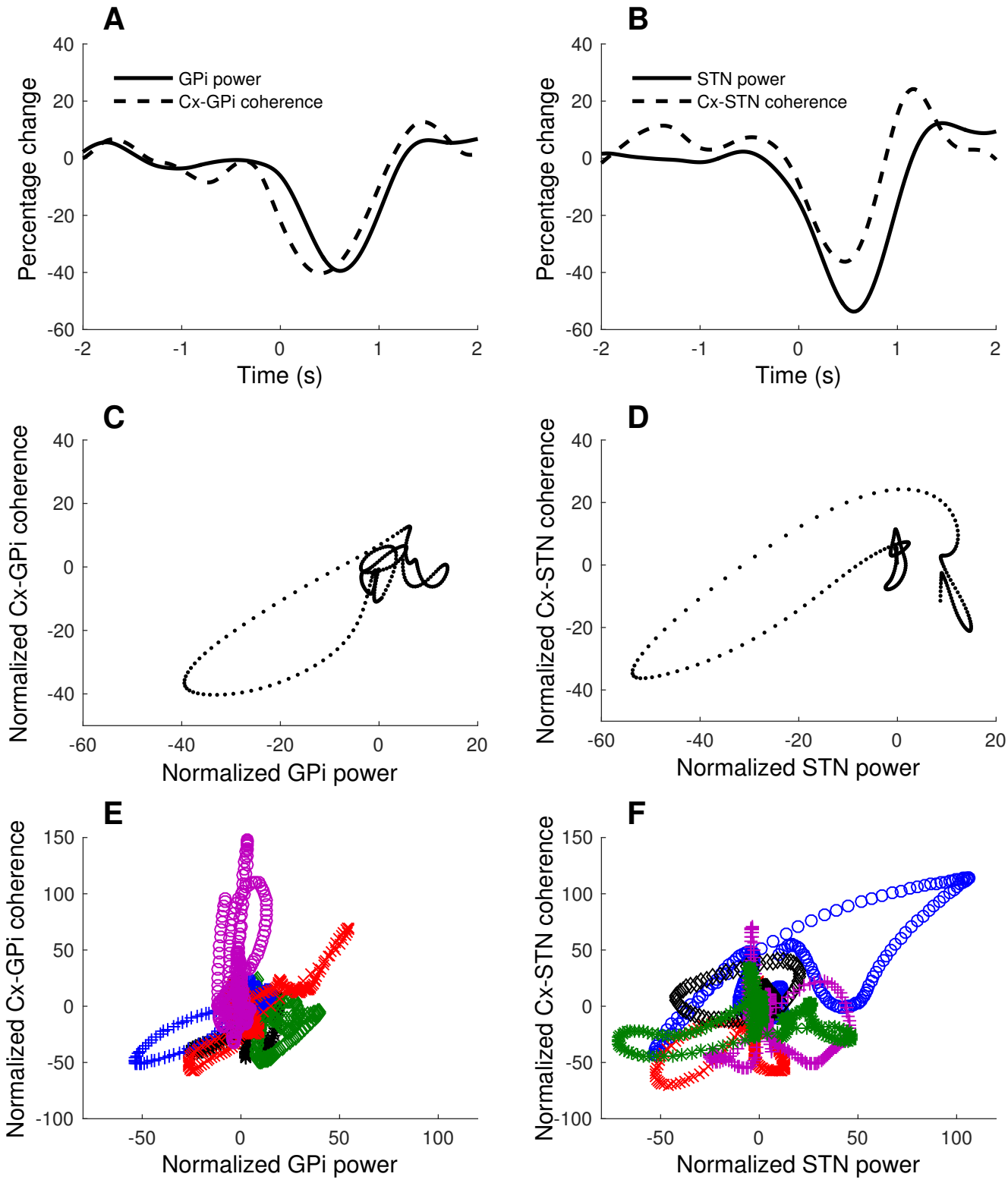

Figure S4. Percentage changes in power and coherence with respect to the baseline on the side contralateral to moving wrist during externally triggered movements. Baseline is defined as the average power between -4 and -3 seconds. (a and c) Grand average power and coherence for GPi patients; (b and d) for STN patients; (e) normalized coherence between Cx-GPi plotted against GPi power for five individuals; (f) normalized coherence between Cx-STN plotted against STN power for five individuals.