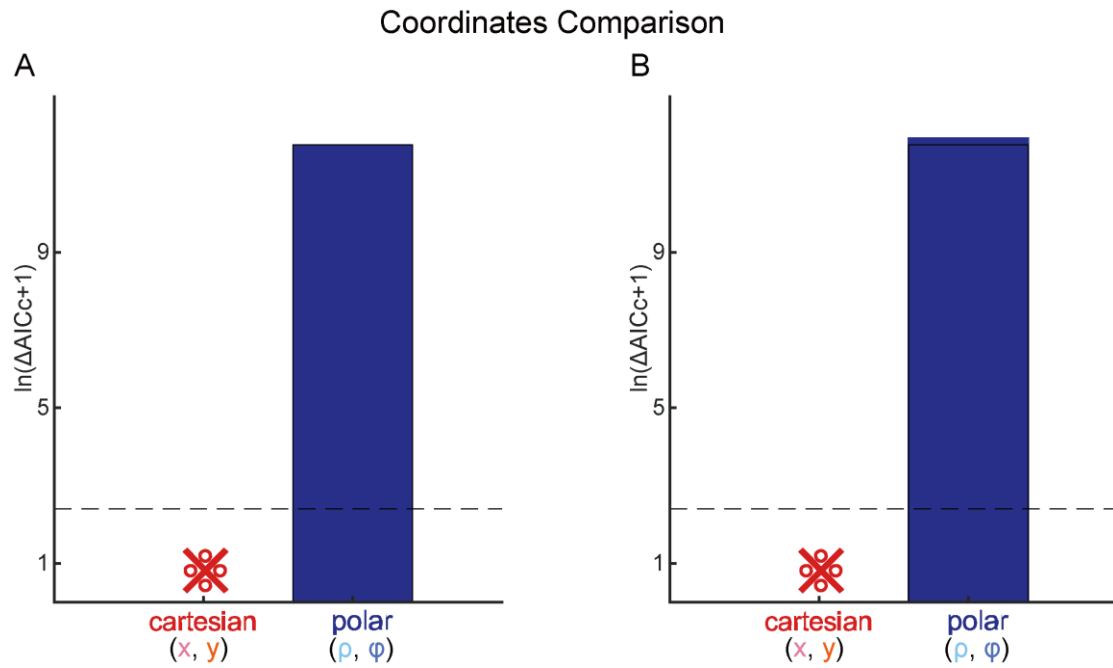


Supplementary table 1

Mixed effect model comparison results of Experiments 1 & 4 (Δ AICc relative to the best model on each axis)

			Constant	SD	LinearCT	Complex CT	SD+ComplexCT
Exp 1	Cartesian	x	8945.4	4833.4	1740.6	241.5	0
		y	11372.5	5409.4	1148.5	348.0	0
	Polar	ρ	3807.7	1006.9	347.1	362.6	0
		φ	249.4	0			
Exp 4	Cartesian	x	9062.5	5182.6	2395.1	107.3	0
		y	14285.3	7226.7	1176.1	201.0	0
	Polar	ρ	4662.6	2476.0	268.1	85.8	0
		φ	68.2	0			



Supplementary Figure 1. Cartesian coordinates outperformed polar coordinates using mixed effect model (Experiment 1&4) Model comparison between Cartesian and Polar coordinates of **(A)** Experiment 1 and **(B)** Experiment 4. The dashed line denotes threshold (log-transition of $\Delta AICc = 10$).