Contents

VAE-CME

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2023.6.23

1 Birth Death Model

2 On Off Model

	True					Telegraph				
Parameter	σ_{off}	σ_{on}	ρ	burst Size	f_{ON}	σ_{off}	σ_{on}	ρ	burst Size	f_{ON}
Set 1	120.38	7.70	40.85	0.34	0.06	15.58	5.63	9.22	0.59	0.27
Set 2	35.48	17.39	85.05	2.40	0.33	36.73	18.03	85.17	2.32	0.33
Set 3	0.52	0.42	46.21	88.36	0.44	0.57	0.42	46.62	82.47	0.43
Set 4	0.32	0.47	15.71	48.65	0.59	0.33	0.47	15.70	48.01	0.59
Set 5	0.53	5.85	49.95	94.72	0.92	0.64	6.62	50.20	77.99	0.91
Set 6	0.16	3.89	26.45	169.81	0.96	0.11	2.94	26.30	238.76	0.96

Table 1: Estimates using the inference algorithm with the telegraph model for the six typical parameter sets. For both the ground truth and the estimated parameters, we fix the degradation rate $d = 1\ \text{min}^{-1}$.

3 Bursty Model

3.1 Control Mean of time delay τ

3.2 Control Variance of time delay τ

4 Oscillation Model

4.1 Reducing sample size

5 Exact solution for variable time delay τ