

**S4A Table.** Features and errors for all the traces from fig 3 (spiking features)

Neuron type	pattern class	$I$ (pA) exp, model	$fsl$ (ms) exp, model, model/exp	$sfa$ exp, model, model/exp	$nISIs$ exp, model, model/exp	$pss$ (ms) exp, model, model/exp
CA1 Perforant Path Associated	ASP.SLN	700, 708	0.16, 12, <b>75</b>	$y=0.142x+0.915,$ $y=0.115x+0.852,$ <b>0.875</b>	12, 12, <b>1</b>	59.55, 59.10, <b>0.99</b>
DG MOLAX	PSTUT	400, 397	15.30, 43, <b>2.81</b>	NA	NA	56.90, 0, <b>0</b>
MEC LIII Multipolar	RBS	-200, 193	625, 625, <b>1</b>	NA	1, 1, <b>1</b>	NA
	NASP	250, 243	4.05, 8, <b>1.98</b>	$y=0.000x+1.310,$ $y=0.000x+1.401,$ <b>1.06</b>	53, 53, <b>1</b>	7.37, 0, <b>0</b>
DG AIPRIM	ASP.NASP	200, 209	0.45, 14, <b>31.11</b>	$y1=0.031x1+1.268,$ $y1=0.040x1+1.011;$ $y2=0.000x2+3.576,$ $y2=0.000x2+3.567,$ <b>1.02</b>	33, 33, <b>1;</b> 24, 24, <b>1</b>	1.24, 13.26, <b>10.7</b>
CA1 Pyramidal	ASP.	150, 154	29.16, 89, <b>3.05</b>	$y=0.085x+1.140,$ $y=0.078x+1.137,$ <b>0.96</b>	11, 11, <b>1</b>	120.79, 72.12, <b>0.6</b>

**S4B Table.** Features and errors for all the traces from fig 3 (bursting/stuttering features)

Neuron type	pattern class	$I$ (pA) exp, model	$n\_bursts$ exp, model, model/exp	$bw^*$ (ms) exp, model, model/exp	$pbi^*$ (ms) exp, model, model/exp	$b-nISIs^*$ exp, model, model/exp
DG MOLAX	PSTUT	400, 397	7, 6, <b>0.86</b>	39.90, 45;	34, 67;	4, 3;
				0, 39;	39.2, 95;	1, 2;
				47.8, 28;	66, 65;	3, 2;
				0, 38;	62.8, 88;	1, 2;
				23.4, 29;	64.9, 72;	2, 2;
				24.5, 0,	74.4, 0,	2, 1,
<b>0.49</b>	<b>1.32</b>	<b>1.15</b>				

\*features are reported for each burst in a pattern