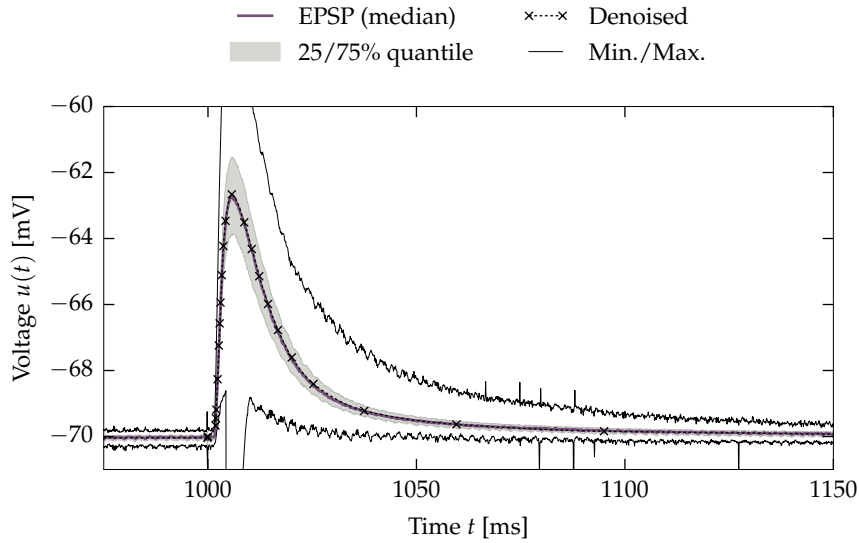
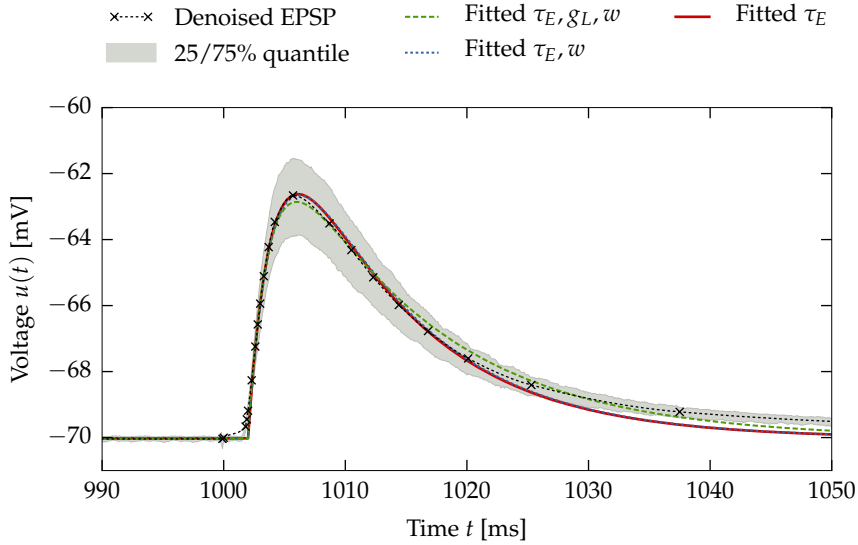


	INIT.	FITTED				CONSTANTS		
τ_e	5.00	1.83	2.24	2.16	[ms]	C_m	0.2	[nF]
w	16.00	16.64	15.55	-	[nS]	E_L	-70.00	[mV]
g_L	20.00	16.37	-	-	[nS]	E_{Th}	-55.00	[mV]
RMSE	526.81	56.08	68.76	68.98	[μ V]			

Table 1: Fitted Spikey LIF parameters for three runs with varying degrees of freedom. The “initial”-column shows the initial neuron parameters from which the optimization process is started, relevant constant parameters are given in the “constants”-column. Final fitted parameters are given in the “fitted”-column along with the resulting RMSE.



(a) Recorded and denoised EPSP traces



(b) LIF neuron simulation results with fitted parameters

Figure 1: Analysis of 192 EPSP traces collected from all Spikey neurons for a single input spike at $t = 1000$ ms and simulation results for a theoretical LIF neuron with fitted parameters. Figure (a) shows the 25/75% quantile, median, minimum/maximum and a denoised trace including its control points, (b) the simulation results for fitting LIF parameters to the denoised EPSP.