Output stream of binding neuron with instantaneous feedback

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Both in the caption of Figures 5 and 6, measuring units s^{-1} should be replaced with ms^{-1} , as follows. Right panel in Figure 6 appeared incorrect due to confused units. The correct panel is displayed below. Notice the remarkable similarity between BNF and leaky integrate and fire model in Figure 6.

Fig. 5. Left: Coefficient of variation as function of $x = \lambda\tau$ for BN (Cv) and BNF (Cfv). Right: ISI distribution $P_b(t)$ (measured in ms^{-1}) found numerically for leaky integrate and fire model with feedback. Used 30 000 000 output spikes. Firing threshold, $C = 20$ mV, input intensity, $\lambda = 0.1$ ms^{-1} , membrane time constant, $\tau_M = 6$ ms, input impulse amplitude, $y_0 = 7.5$ mV.

Fig. 6. Left: ISI distribution $P_b(t)$ found numerically for leaky integrate and fire model with feedback. Used 30 000 000 output spikes. Firing threshold, $C = 20$ mV, input intensity, $\lambda = 0.1$ ms^{-1} , membrane time constant, $\tau_M = 3$ ms, input impulse amplitude, $y_0 = 15$ mV. Right: BNF ISI distribution in accordance with equations (4) and (7) displayed for comparison. Here $\lambda = 0.1$ ms^{-1} , $\tau = 3.3$ ms. Both densities are measured in ms^{-1} . Compare also with Figure 3.

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