Gating of signal propagation in spiking neural networks by balanced and correlated excitation and inhibition

Jens Kremkow, Ad Aertsen & Arvind Kumar[†]

Bernstein Center Freiburg

Hansastrasse 9A, 79104

Freiburg, Germany.

Neurobiology & Biophysics, Faculty of Biology,

Albert-Ludwig University

Schänzlestrasse 1, 79104

Freiburg, Germany.

[†]*Corresponding author : arvind.kumar@biologie.uni-freiburg.de*

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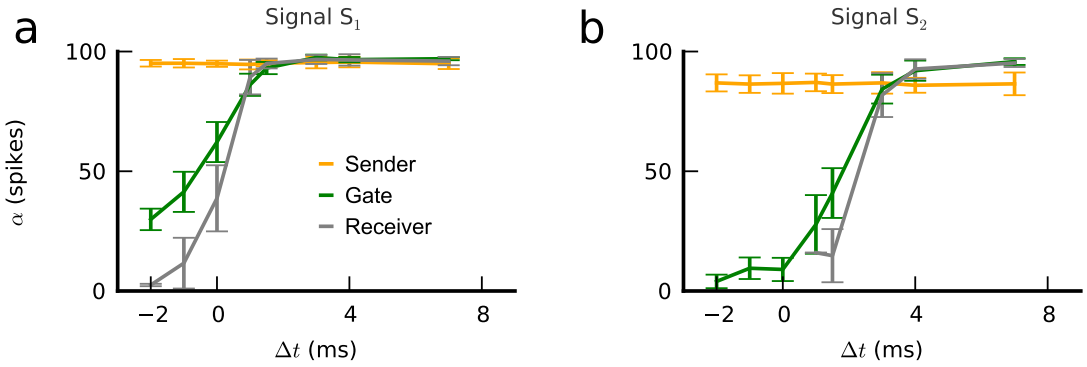

Figure 1: **Temporal gating with current based synapses.** (**a**) α in sender, gate and receiver groups for the S_1 stimulus (class P) as a function of effective integration time (Δt). Error bars represent SD ($n = 20$). In this example, S_1 successfully propagates in the default state ($\Delta t = 2$ ms). A small decrease in Δt (~ 1 ms) suffices to completely block signal propagation. (**b**) Same as in panel **a** for stimulus S_2 (class F). In this example, S_2 does not propagate in the default state ($\Delta t = 2$ ms). Propagation can be rescued by increasing Δt.