

Symbol	Definition	Description
$\tilde{h}_{e,i}$	$h_{e,i}/h^{\text{rest}}$	Population mean soma dimensional electric potential
$\tilde{I}_{ee,ei}$	$I_{ee,ei} \gamma_e / (G_e \exp(1) S^{\text{max}})$	Total $e \rightarrow e, e \rightarrow i$ input from excitatory synapses
$\tilde{J}_{ee,ei}$	$\tau \frac{dI_{ee,ei}}{dt} \gamma_e / (G_e \exp(1) S^{\text{max}})$	Time derivative of the total $e \rightarrow e, e \rightarrow i$ input from excitatory synapses
$\tilde{I}_{ie,ii}$	$I_{ie,ii} \gamma_i / (G_i \exp(1) S^{\text{max}})$	Total $i \rightarrow e, i \rightarrow i$ input from inhibitory synapses
$\tilde{J}_{ie,ii}$	$\tau \frac{dI_{ie,ii}}{dt} \gamma_i / (G_i \exp(1) S^{\text{max}})$	Time derivative of the total $i \rightarrow e, i \rightarrow i$ input from inhibitory synapses
$\tilde{\Phi}_{e,i}$	$\phi_{e,i} / S^{\text{max}}$	Long range (corticocortical) input to $e, i$ populations
$\tilde{\Psi}_{e,i}$	$\tau \frac{d\phi_{e,i}}{dt} / S^{\text{max}}$	Time derivative of long range (corticocortical) input to $e, i$ populations
$\tilde{t}$	$t / \tau$	Dimensionless time

Dynamical variable definitions for the ODEs neural macrocolumn model. The dimensionless variables (left column) are defined in terms of the dimensional symbols (middle column) found in Table 1 of (Steyn-Ross, Steyn-Ross, Sleigh, & Whiting, 2003). The variables are described in the right column. Subscripts  $e$  and  $i$  refer to excitatory and inhibitory, respectively.