Effects of Time-Dependent Stimuli in a Competitive Neural Network Model of Perceptual Rivalry

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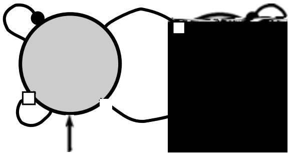
[illegible]

Abstract [illegible]

[illegible]



$$I(t) = - \ [illegible] \ \frac{\pi t}{T}$$

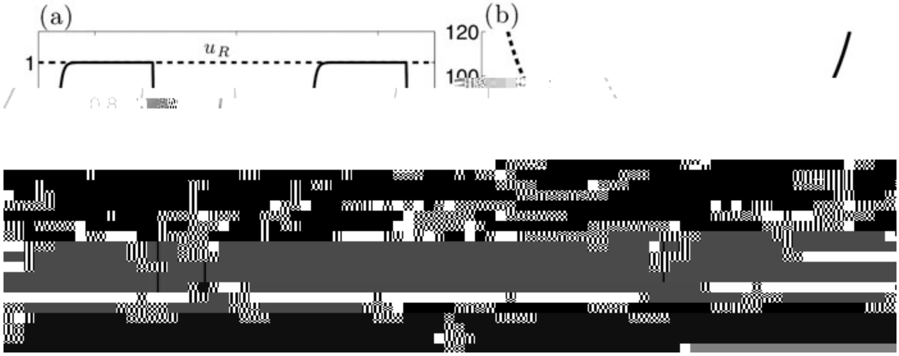


Fig. 5 [illegible] $I_R =$ [illegible] $I_L =$ [illegible]

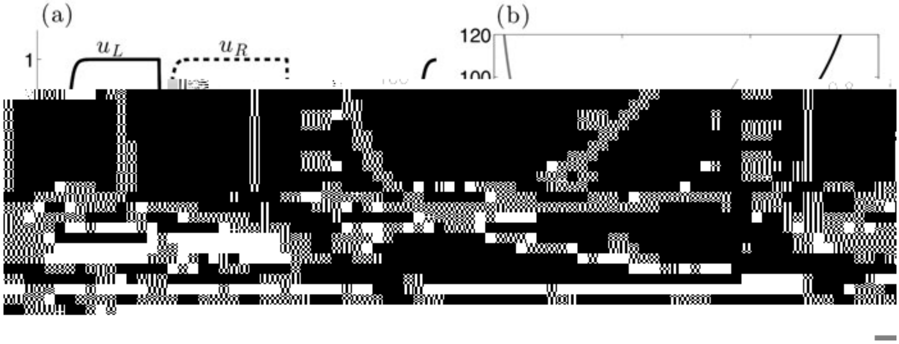


Fig. 6

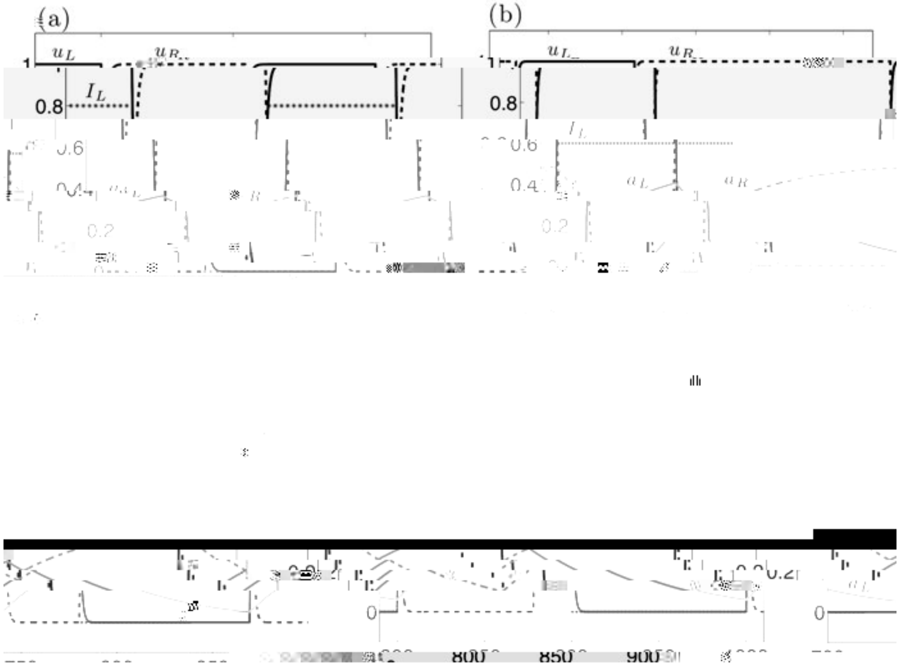


Fig. 7 … **a** … $\Delta I =$. … $T_I =$ … **b** … $\Delta I =$. … $T_I =$ … **c** … $\Delta I =$. … $T_I =$ … **d** … $\Delta I =$. … $T_I =$ … $\alpha =$. $\beta =$. $\tau =$ $\varphi =$. $I_R =$.

… $t =$ … $I_L(t)$ … $u_L \approx$ … $u_R \approx$ …

$$\alpha + \Delta I > a_L(t) \quad -\beta + I_R < a_R(t), \quad t \in (\; ,T$$

$I_L(t) =$

$$\alpha < a_L(T_I) = \varphi - (\varphi - a_L(\ ))e^{-T_I/\tau},$$

$$I_R > a_R(T_I) = a_R(\ )e^{-T_I/\tau}.$$

$t = T_I$ $t = T_I$

$$-\beta < \ < a_L(t), \quad t \in (T_I,\ T_I),$$

α

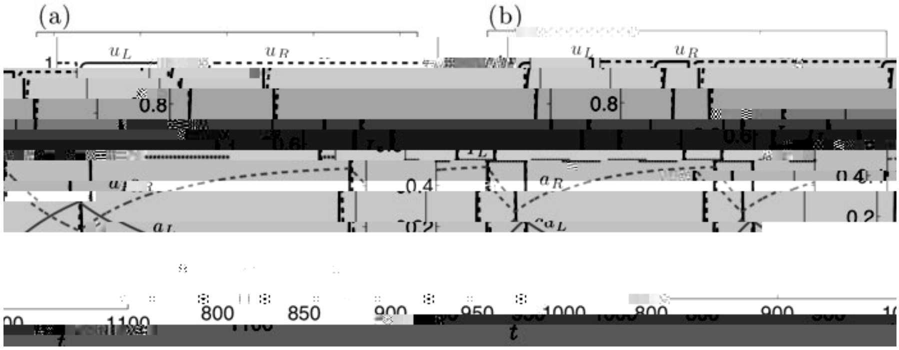


Fig. 8

5 Time-Variation in Both Inputs

$$a_j(\ ) = a_j(\ T_I) = \frac{\varphi}{+ e^{T_I/\tau}} \qquad a_j(T_I) = \frac{\varphi}{+ e^{-T_I/\tau}}, \quad j = L, R.$$

$$\Delta I + \alpha - \beta > \frac{\varphi}{+ e^{-T_I/\tau}},$$

$$\alpha - \beta < \frac{\varphi}{+ e^{-T_I/\tau}},$$

Fig. 10 $I_L(t), I_R(t)$ **a** $\Delta I =$. $T_I =$ **b** $\Delta I =$. $T_I =$ **c** $\Delta I =$. $T_I =$ **d** $\Delta I =$. $T_I =$ $\alpha =$. $\beta =$. $\varphi =$. $\tau =$

$$< \frac{\varphi}{+ e^{T_I/\tau}},$$

$$\Delta I > \frac{\varphi}{+ e^{T_I/\tau}}.$$

[illegible] φ [illegible]

[illegible]

[illegible] T_I [illegible] τ [illegible]

Fig. 11

[illegible]

$$\Delta I > \frac{\varphi e^{-\ T_I/\tau}(\ \ - e^{-T_I/\tau} + e^{-\ T_I/\tau})}{\frac{\varphi+\beta-\alpha-\Delta I}{\alpha-\beta+\Delta I} + e^{-\ T_I/\tau}},$$

[illegible]

$$\alpha - \beta + \Delta I > \frac{\varphi\frac{\varphi+\beta-\alpha-\Delta I}{\alpha-\beta+\Delta I}(e^{-T_I/\tau} - e^{-\ T_I/\tau}) + \varphi e^{-\ T_I/\tau}}{\frac{\varphi+\beta-\alpha-\Delta I}{\alpha-\beta+\Delta I} + e^{-\ T_I/\tau}},$$

[illegible]

$$\alpha - \beta + \Delta I > \frac{(\alpha-\beta+\Delta I)(\ \ + e^{-\ T_I/\tau} - e^{-\ T_I/\tau}) + \varphi(e^{-T_I/\tau} - e^{-\ T_I/\tau})}{\ \ - e^{-T_I/\tau} + e^{-\ T_I/\tau}},$$

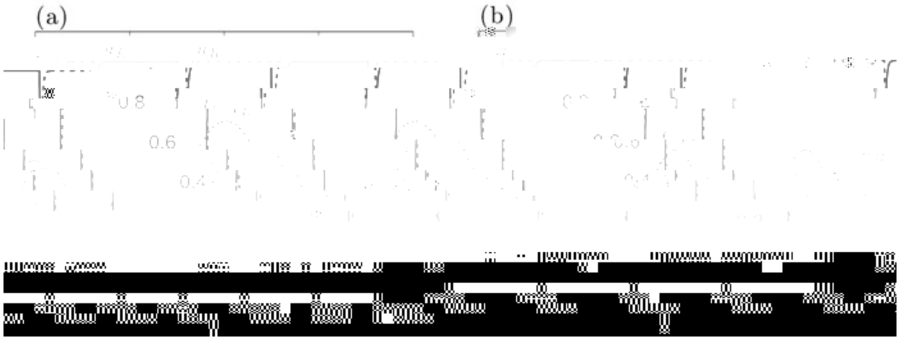


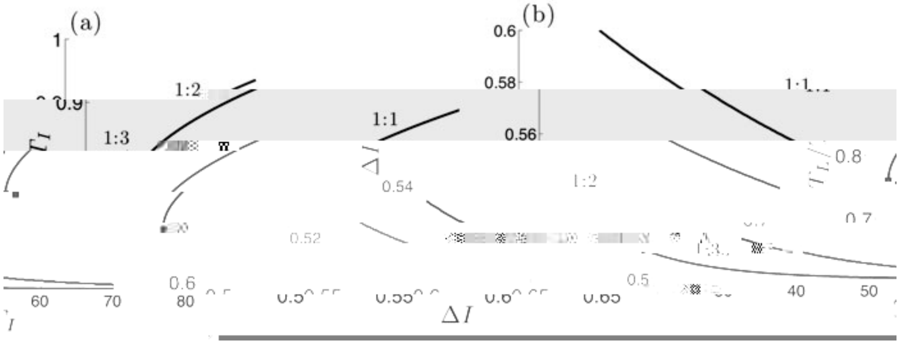
Fig. 12 (**a**): $\Delta I =$. $T_I =$ (**b**): $\Delta I =$. $T_I =$ $\alpha =$. $\beta =$. $\varphi =$. $\tau =$ $I_R =$.

T_L I_L

$$\alpha + I_L(T_\Delta) = a_L(T_\Delta + T_L),$$

a_L

ΔI


(a)
(b)
1:1
1:2
1:3
ΔI
0.54
0.52
0.56
0.58
0.6

[illegible]

[illegible] T_R [illegible]

$$I(T_U + T_L + T_R - T_\Delta) + \alpha = a_R(T_U + T_L + T_R - T_\Delta).$$

[illegible]

$$\frac{\Delta I}{} \quad - \quad \frac{\pi T_\Delta}{T_I} = \varphi \frac{e^{(- \; T_I + T_L + T_U)/\tau} - e^{- \; T_I/\tau}}{- e^{- \; T_I/\tau}},$$

$$\frac{\Delta I}{} \quad \frac{\pi (T_L - T_\Delta)}{T_I} + \quad - \beta = \varphi \frac{e^{(- \; T_I + T_R + T_U)/\tau} - e^{- \; T_I/\tau}}{- e^{- \; T_I/\tau}},$$

$$\frac{\Delta I}{} \quad \pi (T_U + T$$

[illegible]

[illegible]