

$F_{ab}(x_r)$ = achromatic receptor response

$$F_{ab}(x_r) = -b \beta \frac{e^{x_r/a} - e^{-x_r/a}}{e^{x_r/a} + e^{-x_r/a}} = -b \beta \tanh[x_r/a]$$

antagonistic model
 $a=1,00$, $b=1,00$ $e=2,7182$
 $\beta=1,0$

$$F'_{ab}(x_r) = -4 b \alpha / [a \{e^{x_r/a} + e^{-x_r/a}\}^2]$$

range luminance
 office display with 3,6% reflection

$a=1,00$; $b=1,00$ $F'_{ab}(x_r)$
 $\alpha=0,9$

