

# Changes to the Rescorla-Warner Modified Model

## 1 Updating $\alpha$

### 1.1 Alternative: Double $\alpha$

$$\begin{aligned}\alpha^{n+1} &= \alpha^n + \Delta\alpha^n \\ &= \alpha^n + [\lambda\alpha_{\text{Mack}}^n + (1 - \lambda)\alpha_{\text{Hall}}^n]\end{aligned}$$

$$\alpha_{\text{Mack}}^n = f(\lambda - V)$$

$$\alpha_{\text{Hall}}^n = -\alpha^n \delta \cdot e^{-\frac{(\nabla_1[f](n))^2}{2}} = -\alpha^n \delta e^{-\frac{(V_{\text{MA}}^n - V_{\text{MA}}^{n-1})^2}{2}}$$