

$AN \in (HSR, MSR, LSR)$

$\lambda_{AN}(x, t, \alpha_{NL}^* + \Delta\alpha_{SL})$

$\lambda_{AN}(x, t, \alpha_{NL}^*)$

$\alpha \in \{\alpha_{NL}^* + \Delta\alpha_{SL}, \alpha_{NL}^*\}$

RA calculation

AI calculation

$$\bar{\lambda}_{Mean\ Rate, AN}(x, \alpha) = \frac{1}{T} \cdot \sum_{t=0}^T \lambda_{AN}(x, t, \alpha)$$

$$Fisher_{AN, RA}^{Spaced}(x, \Delta\alpha_{SL}, \alpha_{NL}^*) = \frac{\bar{\lambda}_{Mean\ Rate, AN}(x, \alpha_{NL}^*)}{T \cdot \Delta\lambda_{AN, RA}^2(x, \alpha_{NL}^*, \Delta\alpha_{SL})}$$

$$\text{Calculate } Fisher_{AN, AI}^{Unweighted}(x, t, \Delta\alpha_{SL}, \alpha_{NL}^*), \\ Fisher_{AN, AI}^{Spaced}(x, \Delta\alpha_{SL}, \alpha_{NL}^*)$$

$$Fisher_{AN}(\Delta\alpha_{SL}, \alpha_{NL}^*) = \frac{1}{Sections} \cdot \sum_{x=1}^{Sections} Fisher_{AN}^{Spaced}(x, \Delta\alpha_{SL}, \alpha_{NL}^*)$$

$$JND(\Delta\alpha_{SL}, \alpha_{NL}^*) = \frac{1}{\sqrt{\forall_{AN} Fisher_{AN}(\Delta\alpha_{SL}, \alpha_{NL}^*)}}$$

$$\begin{aligned} &\text{Minimum JND} \\ JND(\alpha_{NL}^*) &= \max_{SL} JND(\Delta\alpha_{SL}, \alpha_{NL}^*) \geq JND(\Delta\alpha_{SL-1}, \alpha_{NL}^*) \\ &\quad \wedge \quad JND(\Delta\alpha_{SL}, \alpha_{NL}^*) \leq JND(\Delta\alpha_{SL+1}, \alpha_{NL}^*) \end{aligned}$$

$$\begin{aligned} &\text{Wanted JND} \\ JND(\alpha_{NL}^*) &= \min_{SL} JND(\Delta\alpha_{SL+1}, \alpha_{NL}^*) - JND(\Delta\alpha_{SL}, \alpha_{NL}^*) > \epsilon \end{aligned}$$