Model: Rank-1 RNN

$$m_i \sim \mathcal{N}(M_m, \Sigma_m) \quad n_i \sim \mathcal{N}(M_n, \Sigma_n) \quad I = \frac{\Sigma_{nI}}{\Sigma_n} n$$

Behavior: Noisy detection

$$f_{ND}(z) = \kappa(z \mid \Sigma_{nI} = 0.75) - \kappa(z \mid \Sigma_{nI} = 0.25)$$

$$E\left[f_{ND}(z)\right] = 1.0 \quad Var(f_{ND}(z)) = 0.01$$

DSN:

$$z = \begin{bmatrix} g \\ M_m \\ M_n \\ \Sigma_m \\ \Sigma_n \end{bmatrix}$$