Landmark assignment

Maximum likelihood landmark assignment

$$(z - h(x))^T \Psi^{-1} (z - h(x)) < \varepsilon$$

Ψ ... covariance matrix

$$\Psi = H \bar{\Sigma} H^T + Q$$

$H \bar{\Sigma} H^T$: state error — variance propagation

Q: Meas. error

Mahalanobis distance

$\mathcal{N}(\mu, \sigma^2)$ ... PDF const $\cdot e^{-\frac{1}{2}(x-\mu)^T \Sigma^{-1} (x-\mu)}$