

Prediction Step

$$\hat{x}[k+1] = A_d * x[k] + B_d * u[k];$$
$$P = A_d * P * A_d' + G_d * Q[k] * G_d';$$

Next Loop

Measurement
arrived

Correction Step

$$K = P * C' * (C * P * C' + R[k])^{(-1)};$$
$$x[k] = \hat{x}[k] + K * (y(:,k) - C * \hat{x}[k] - D_d * u[k]);$$

x