

# Kalman filter

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## 1 Equations

The equations for estimation update are :

$$X_k = X_{k-1} + U_{k-1}$$

$$P_k = P_{k-1} + Q$$

The equation for measurement update are:

$$K_k = P_k P_k + R$$

$$P_k = (I - P_k) K_k$$

$$X_k = X_k + K_k (Z - X_k)$$