$\hat{m{x}}^+\!\langle k+1
angle = m{f}(\hat{m{x}}\!\langle k
angle, \, m{u}\!\langle k
angle)$ ulletpredict state one step ahead $\hat{ extbf{P}}^+_{\langle k+1
angle} = extbf{F}_x \hat{ extbf{P}}_{\langle k
angle} extbf{F}_x^ op + extbf{F}_v extbf{V} extbf{F}_v^ op$ project covariance one step ahead prediction phase $oldsymbol{
u} = oldsymbol{z}\!\!ra{k+1} - \mathbf{h}(\hat{oldsymbol{x}}\!\!ra{k+1},oldsymbol{p}_i)$ $oldsymbol{\bullet}$ new information - innovation

 $\mathbf{K} = \mathbf{P}^+\!\!\langle k+1 \rangle \mathbf{H}_x^{ op} (\mathbf{H}_x \mathbf{P}^+\!\!\langle k+1 \rangle \mathbf{H}_x^{ op} + \mathbf{H}_w \mathbf{W} \mathbf{H}_w^{ op}) leftoon$

$$\hat{\mathbf{P}}\langle k+1\rangle = \hat{\mathbf{P}}^{\dagger}\langle k+1\rangle - \mathbf{K}\mathbf{H}_x\hat{\mathbf{P}}^{\dagger}\langle k+1\rangle$$

how to distribute the innovation to states - Kalman gain $\hat{m{x}}\!\langle k+1
angle = \hat{m{x}}^{\!+}\!\langle k+1
angle + \mathbf{K}m{
u}$ state updated with innovation updated covariance

update phase