

1 Big picture of what we have learned so far

Picture and connections drawn during discussion.

2 One-step derivation of KF

Check page 3 of the notes for discussion 4. Several points to check are:

- what are the meanings of $\hat{x}(k|k)$, $\hat{x}(k|k-1)$, $M(k)$, $Z(k)$?
- what is the meaning of $\hat{y}(k) |_{y(0), \dots, y(k-1)}$?
- what are the meanings of $\tilde{x}(k|k)$, $\tilde{y}(k|k-1)$, $\tilde{x}(k|k-1)$?
- what is the connection between KF and least square estimate, and how to use the result of least square estimate in KF?

3 Colored input noise

Check the last part of the notes for discussion 4. Several points to check are:

- how are colored noises generated?
- how to augment a state-space system?
- what are we trying to achieve in the system augmentation?