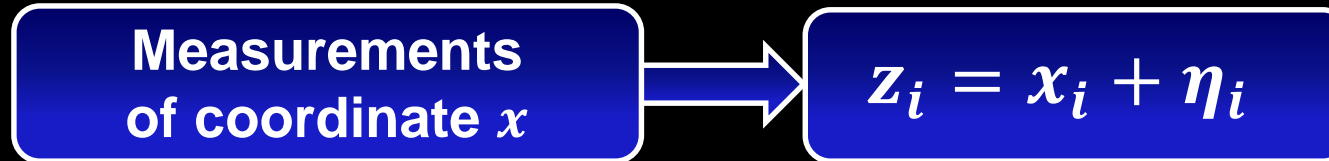


“Experimental Data Processing”

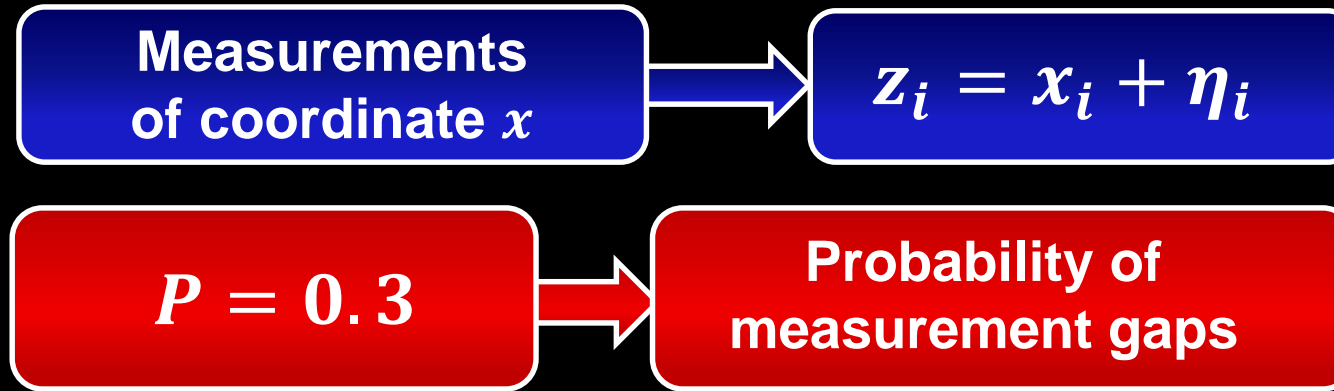
Assignment 9 Tracking and forecasting in conditions of measurement gap

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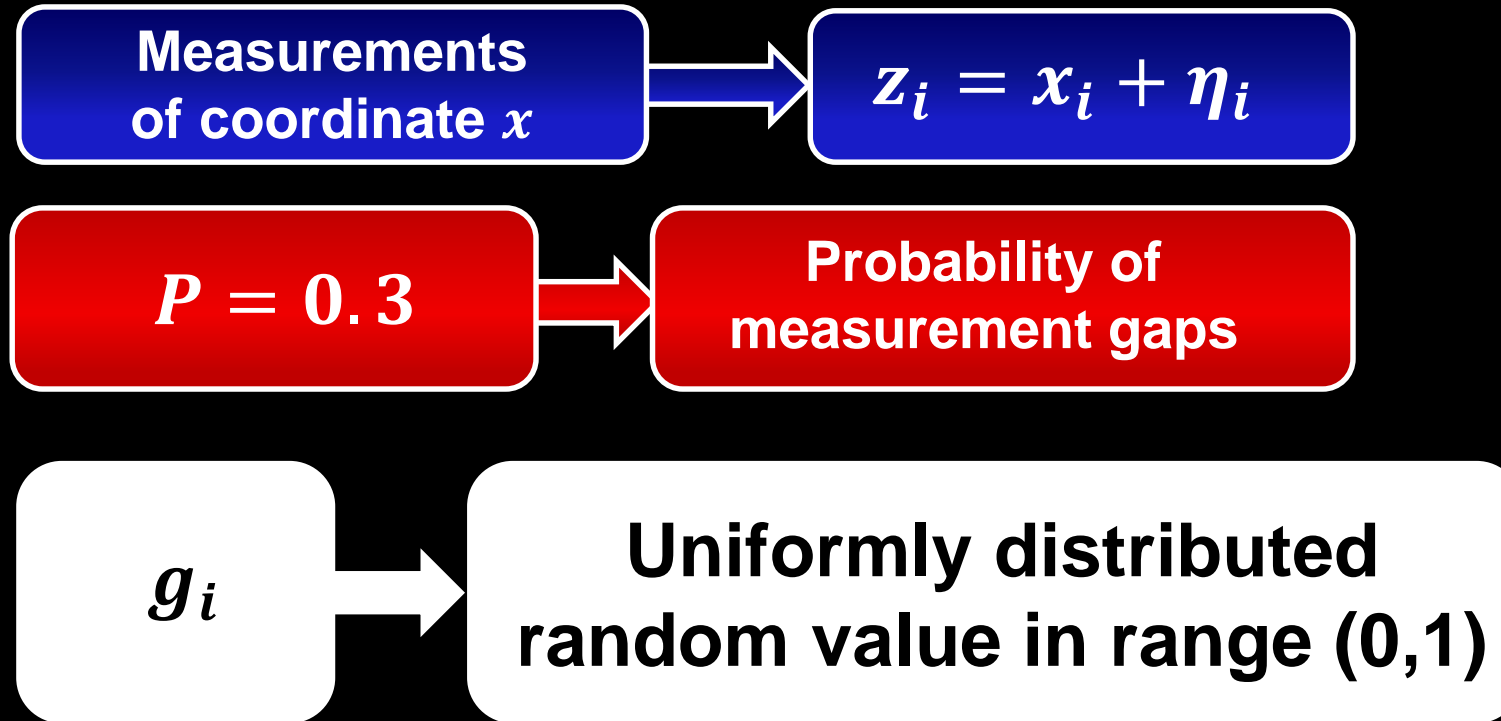
Tracking and forecasting in conditions of measurement gaps



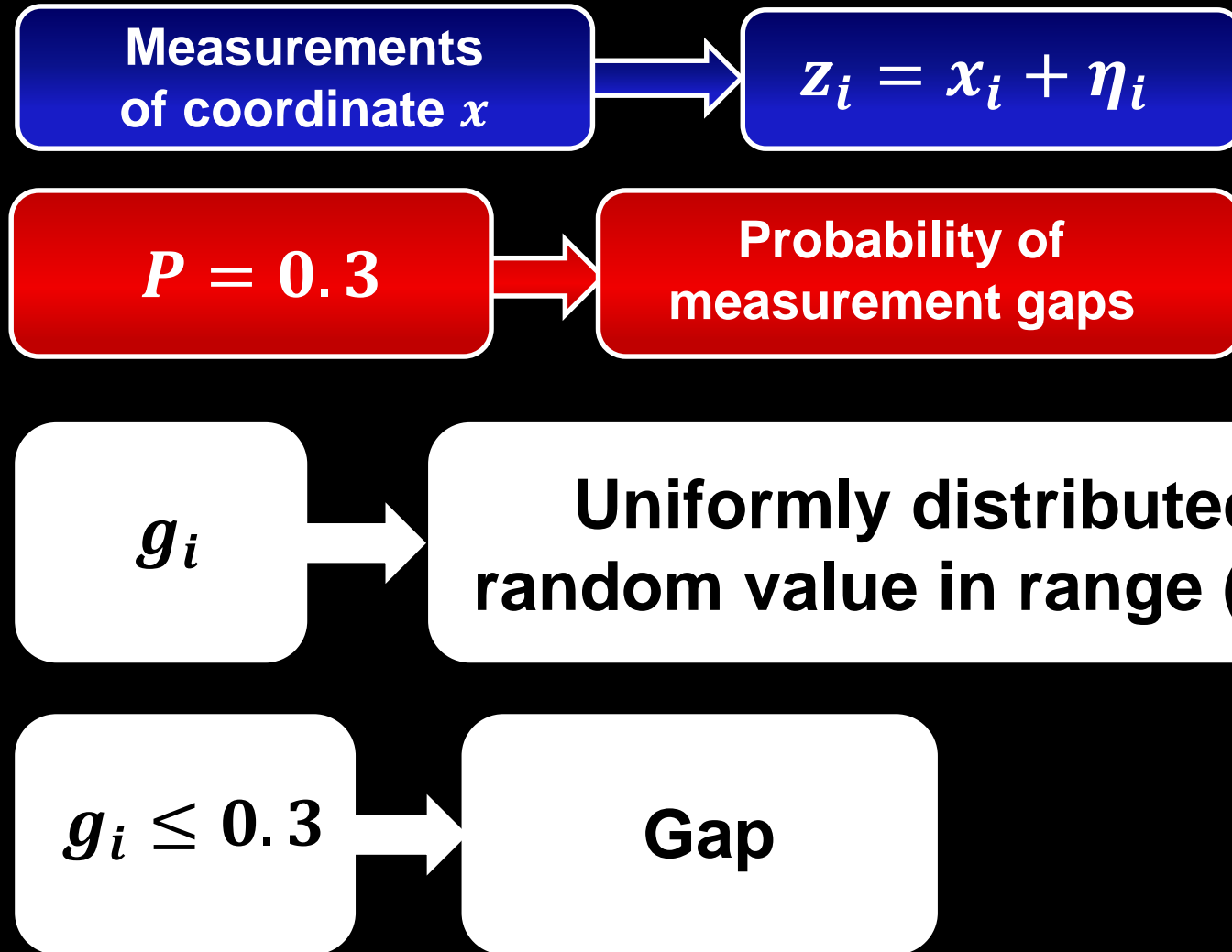
Tracking and forecasting in conditions of measurement gaps



Tracking and forecasting in conditions of measurement gaps



Tracking and forecasting in conditions of measurement gaps



Tracking and forecasting in conditions of measurement gaps

1

Prediction (extrapolation)

$X_{i+1,i}$



Extrapolated estimate

$P_{i+1,i}$



Prediction error covariance matrix

Tracking and forecasting in conditions of measurement gaps

①

Prediction (extrapolation)

$X_{i+1,i}$



Extrapolated estimate

$P_{i+1,i}$



Prediction error covariance matrix

②

Filtration is done only
if measurements at step i are available

$X_{i+1,i+1}$



Filtered estimate

$P_{i+1,i+1}$



Filtration error covariance matrix

Tracking and forecasting in conditions of measurement gaps

①

Prediction (extrapolation)



②

Filtration is done only
if measurements at step i are available



③

If measurements at step i are not available,
then filtered estimate is equal to extrapolated estimate

$$X_{i+1,i+1} = X_{i+1,i}$$

$$P_{i+1,i+1} = P_{i+1,i}$$