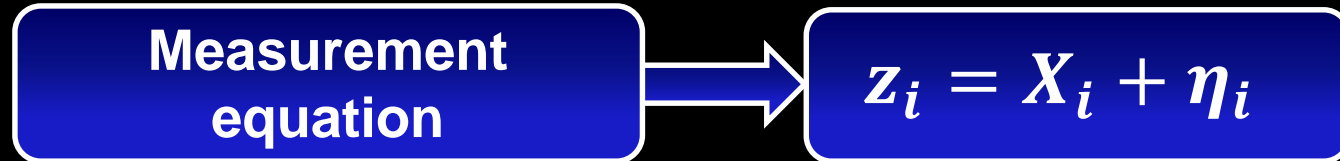


“Space Data Processing: Making Sense of Experimental Data”

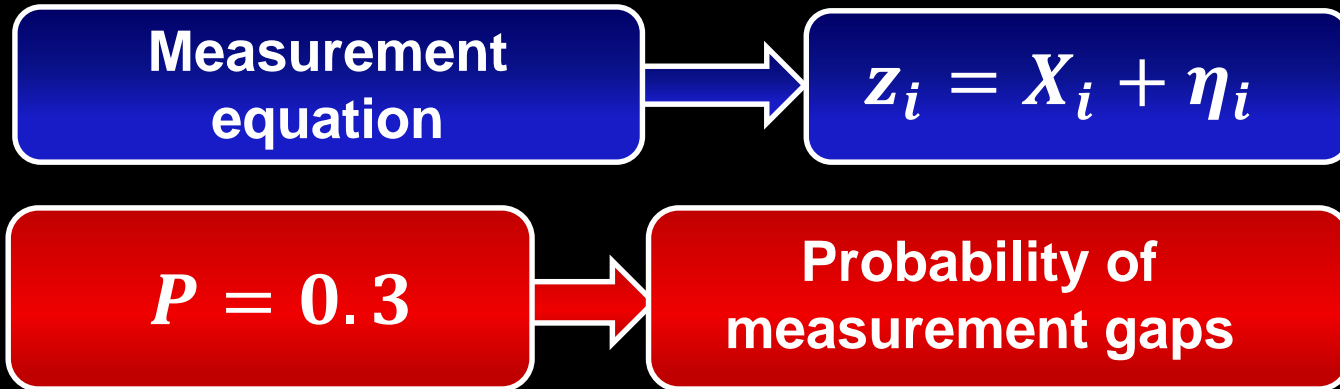
Laboratory work 8
Tracking and forecasting
in conditions of measurement gap

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Term 1B, October 2017
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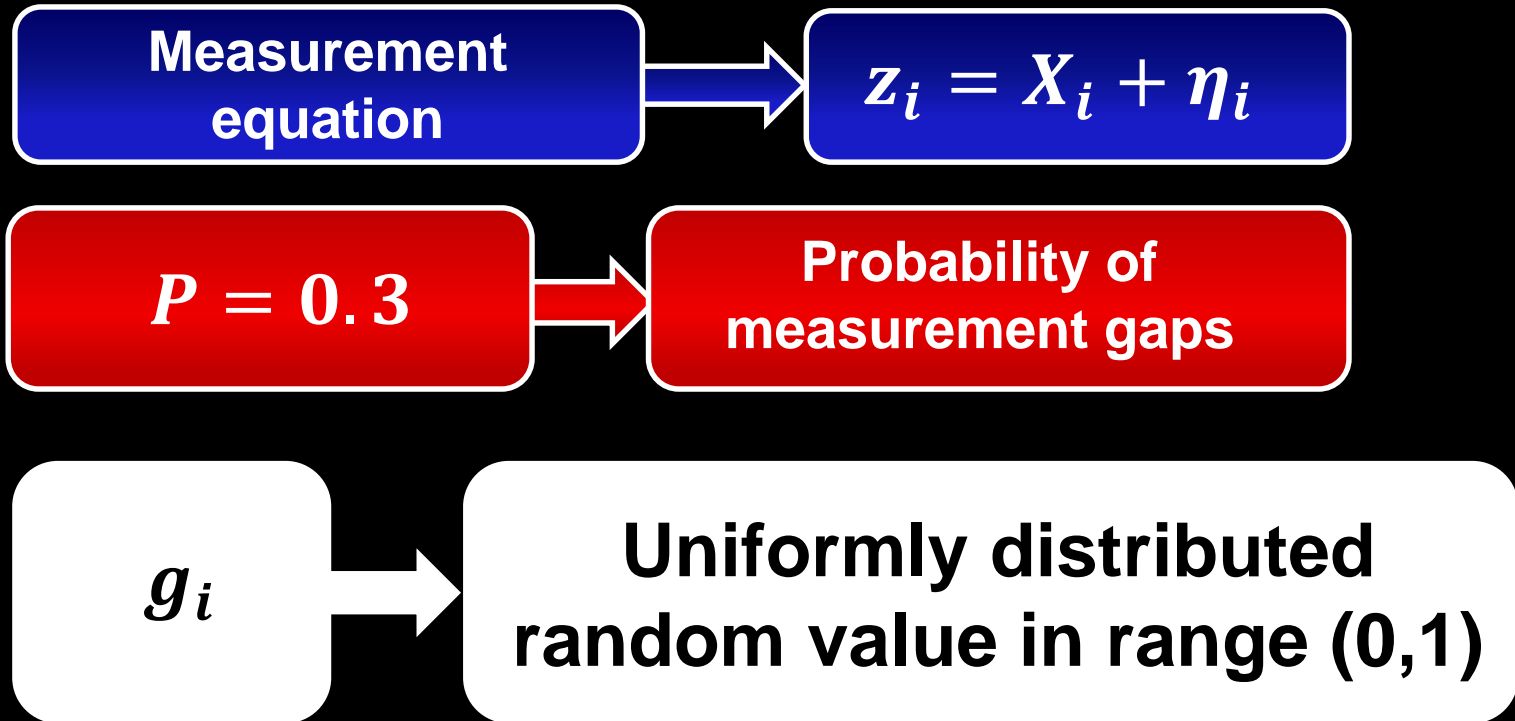
Tracking and forecasting in conditions of measurement gaps



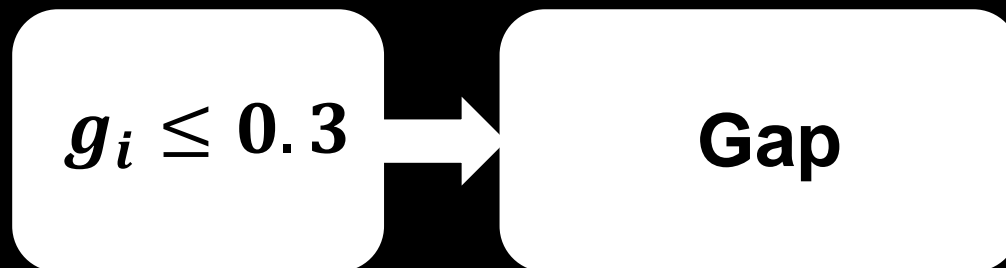
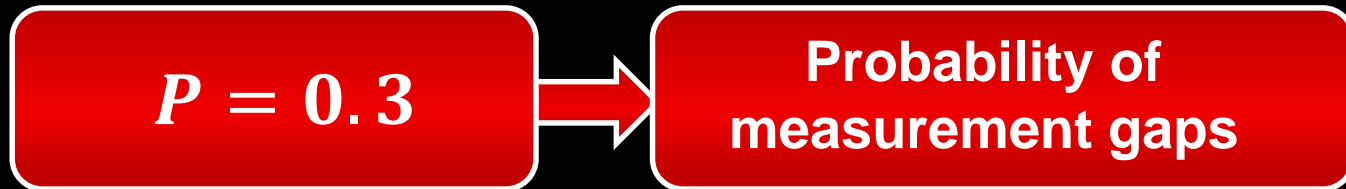
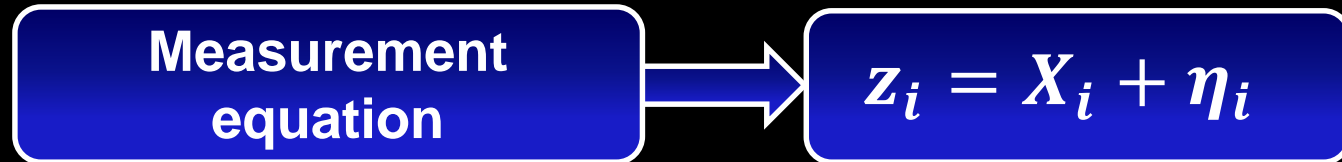
Tracking and forecasting in conditions of measurement gaps



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)



②

Filtration is done only
if measurements at step i are available



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

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

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