

# Optimisation of acquisition and record time steps in sewer system

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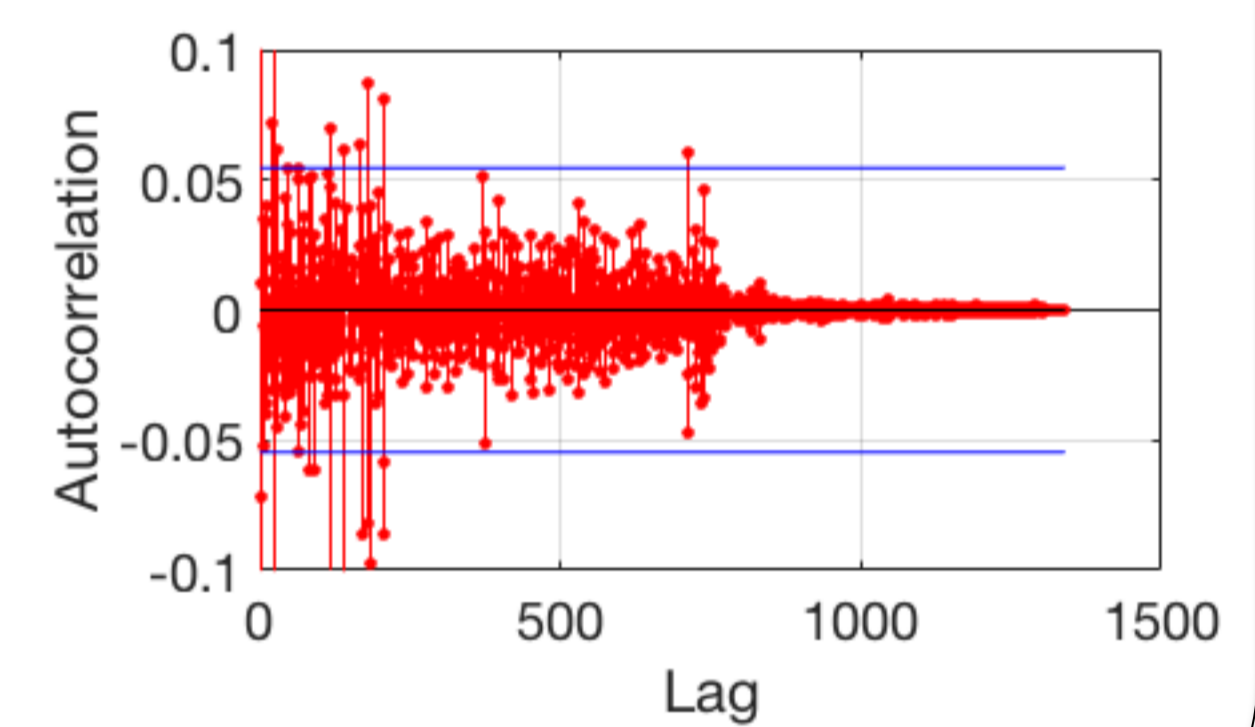
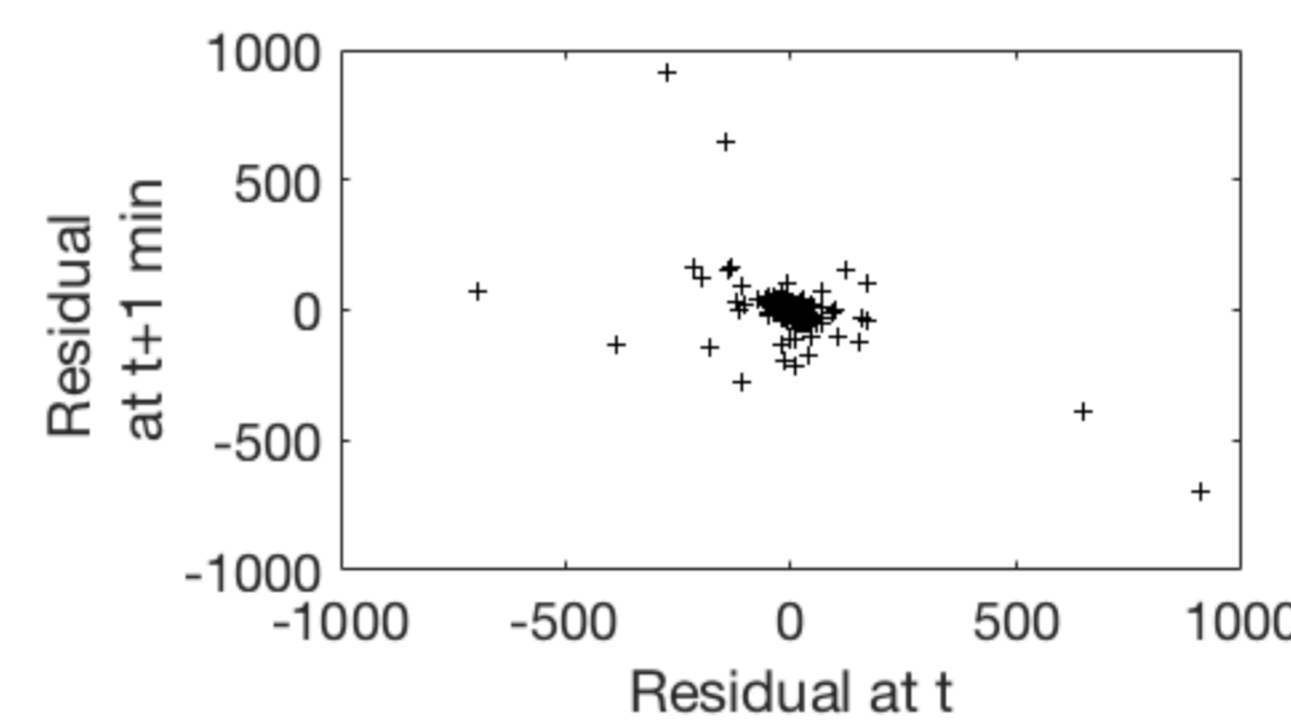
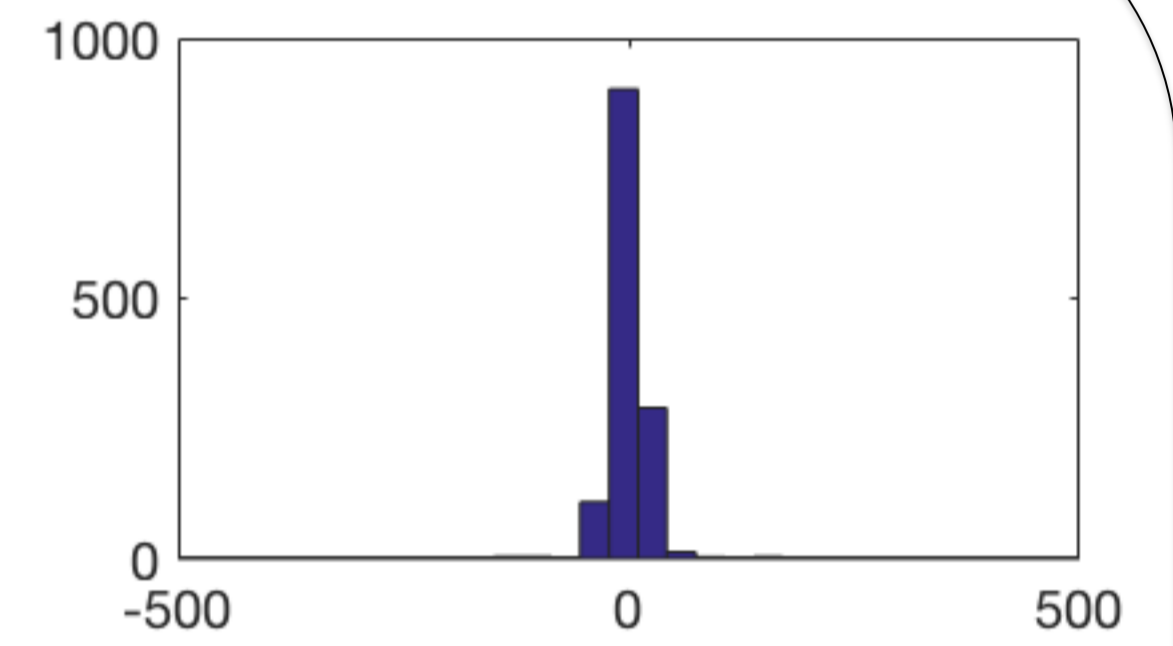
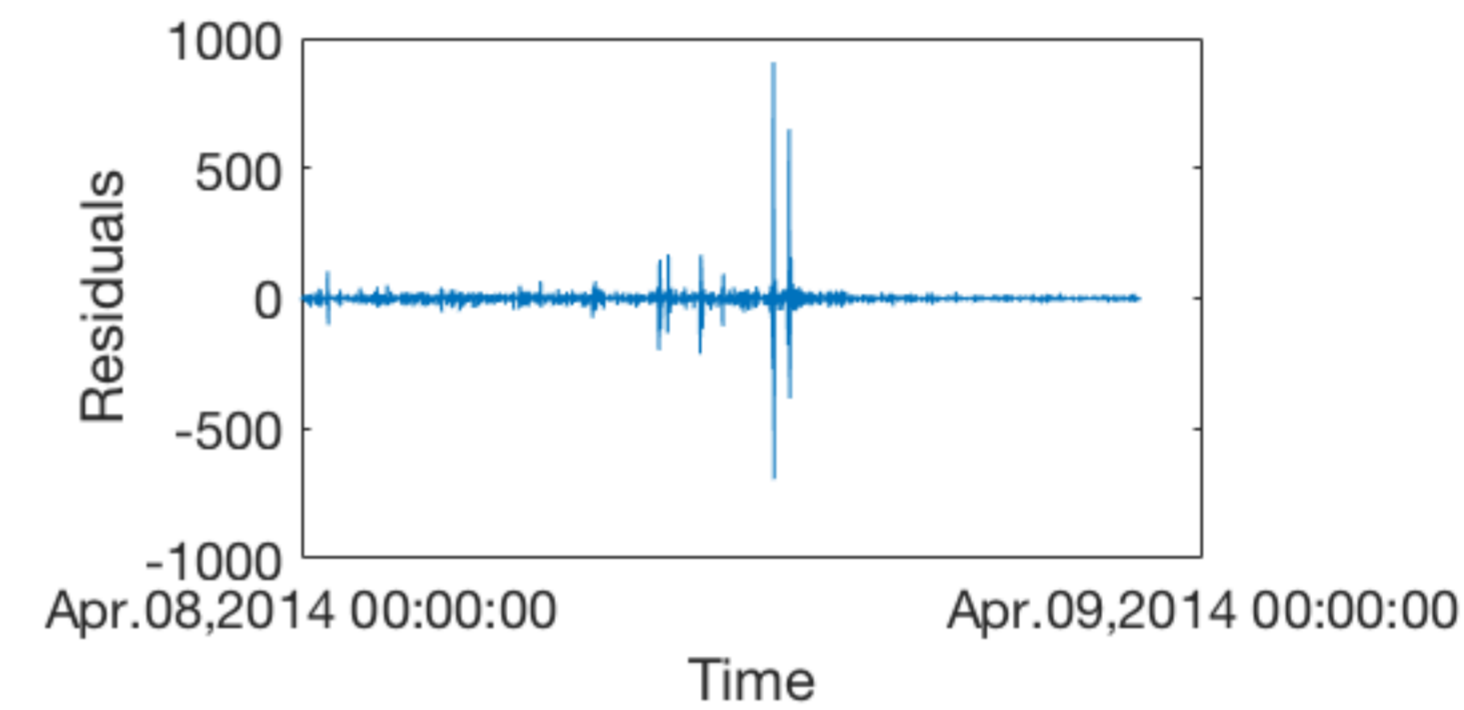
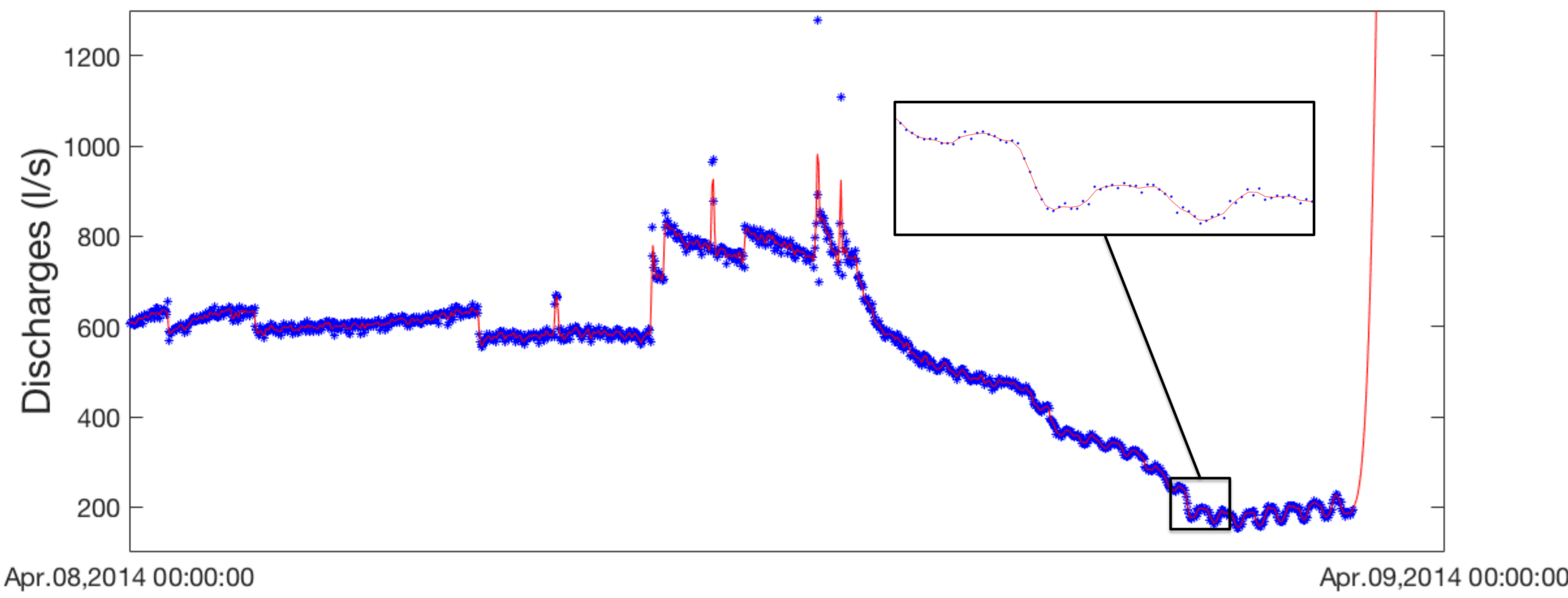
## Goal

Optimise the trade-off between the amount of data (time series) and the uncertainty on cumulated values (daily or event volumes, pollutant fluxes)

Test different strategies to propose new guidelines



## SIGNAL (blue star) =



TRUE SIGNAL (red line)

+

NOISE

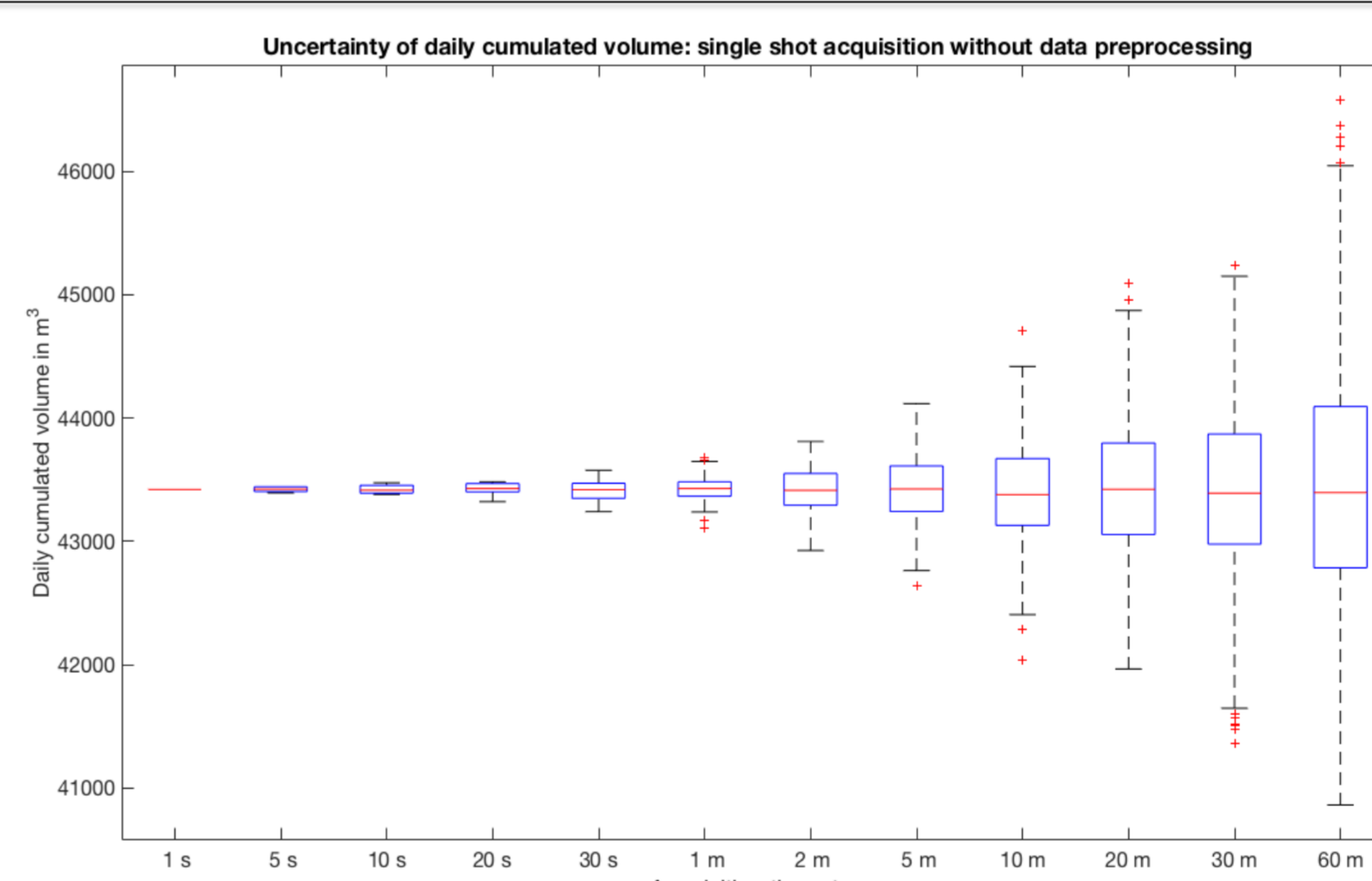
## Strategies

Acquisition at fixed time step

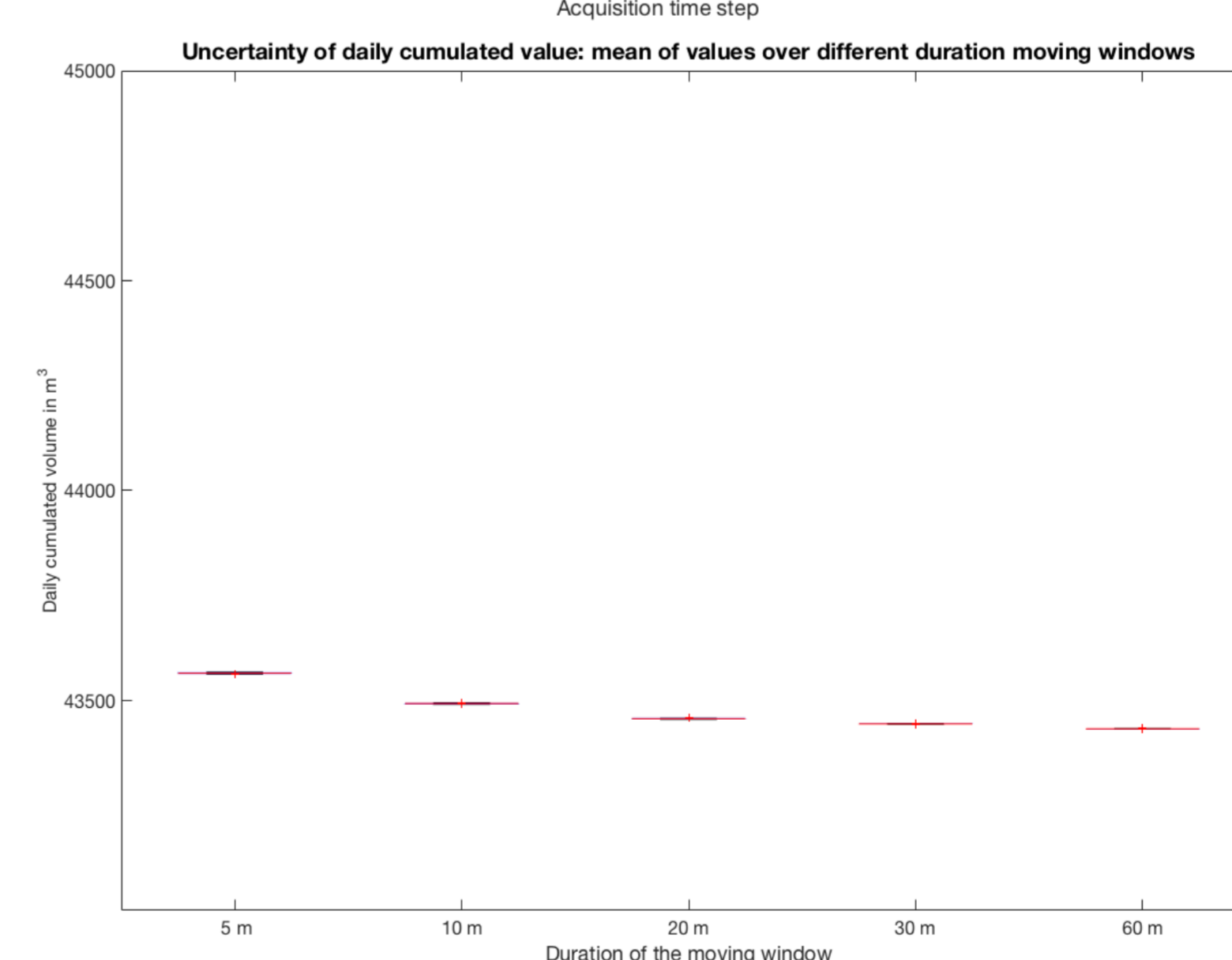
Is the shortest the best?

Record at fixed time step?

Data compression?  
Outliers?



Time series built by time subsampling of the signal



Time series built by the averages of all the values with different duration moving windows

## Preliminary results

- Basic time subsampling leads to high uncertainty and underestimation of the cumulated values
- Basic data processing allows the reduction of data set sizes while keeping accurate cumulated values



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