SOFOG3D Flux data processing comparison

W. Maurel (CNRM/GMEI), Jeremy Price (Met Office) - 07/06/2021
• We have 2 différents eddy-covariance measurements systems with 2 different processing managed by CNRM and Met Office

• Eddy-covariance data-processing can generate differences in the turbulent produced variables

• First aim is to evaluate uncertainties due to flux processing between SOFOG3D sites
Méthodology

UKMetOffice raw data (10Hz)
10 days
(01/12/2019 → 11/12/2019)

CNRM processing
Like other sites BOMMES and JACHERE
(like ACTRIS-FR)

Met Office processing

Compare only data with best quality flag
Results

SOFOG3D UKMO-LE COUYE covariances comparison from 01/12/2019 to 11/12/2019

WU covariance 10m

WT covariance 10m

WQ covariance 10m
Results

SH Flux: +1 %

Latent Heat Flux: +6 %
but more scattered

U* 10m

Ustar: -6 %
Conclusion and discussion

- First evaluation of uncertainties due to processing are between 1 and 6 %
- More scattered for latent heat flux

Data analysis have to take in account these uncertainties

Continue this work in order to minimize processing uncertainties (understanding of differences, agreement about a same way to process, ...) ?