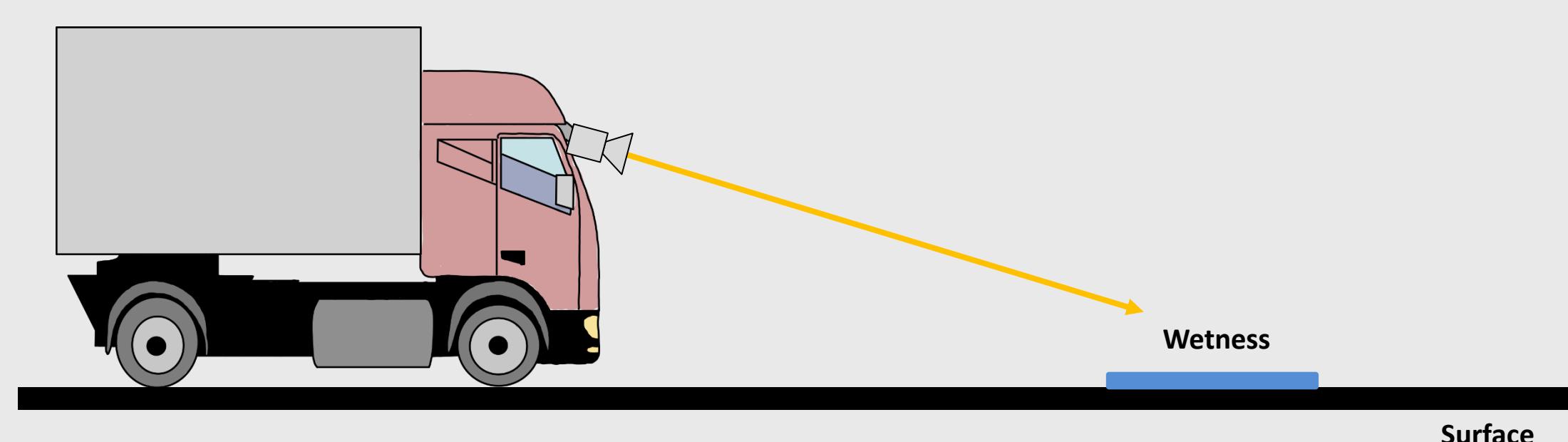


# RoadSaW: A Large-Scale Dataset for Camera-Based Road Surface and Wetness Estimation

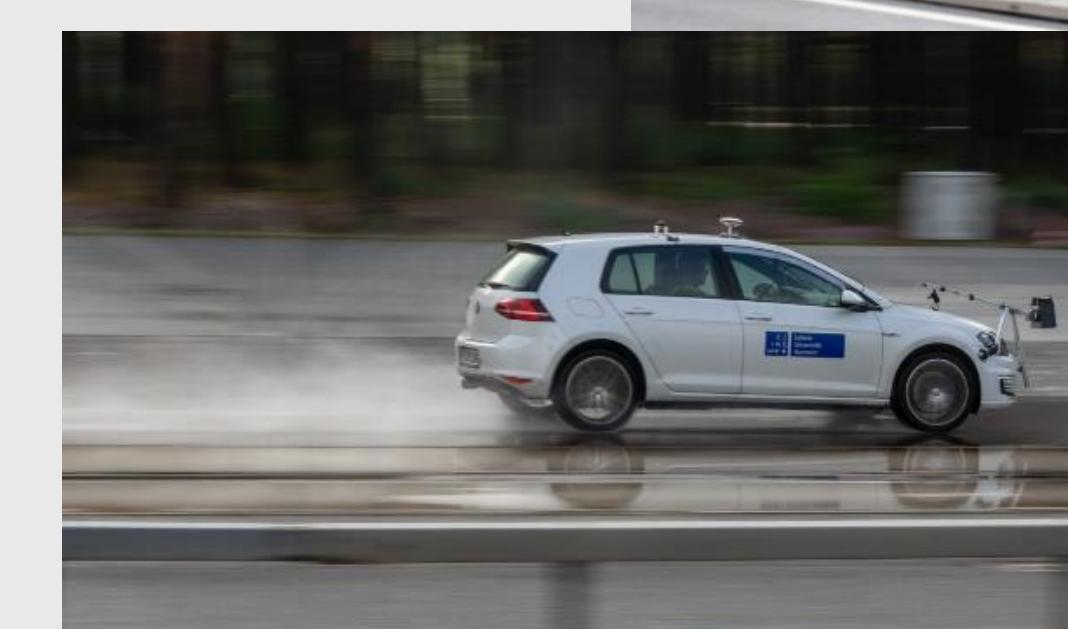
<https://roadsaw.viscoda.com>

## Road Surface and Wetness Estimation

- Monocular camera
  - Surface and wetness
- Fusion with other sensors (vibroacoustical, model-based friction, cloud, ...)
  - Friction estimation for individual vehicles



Test track



Partner:

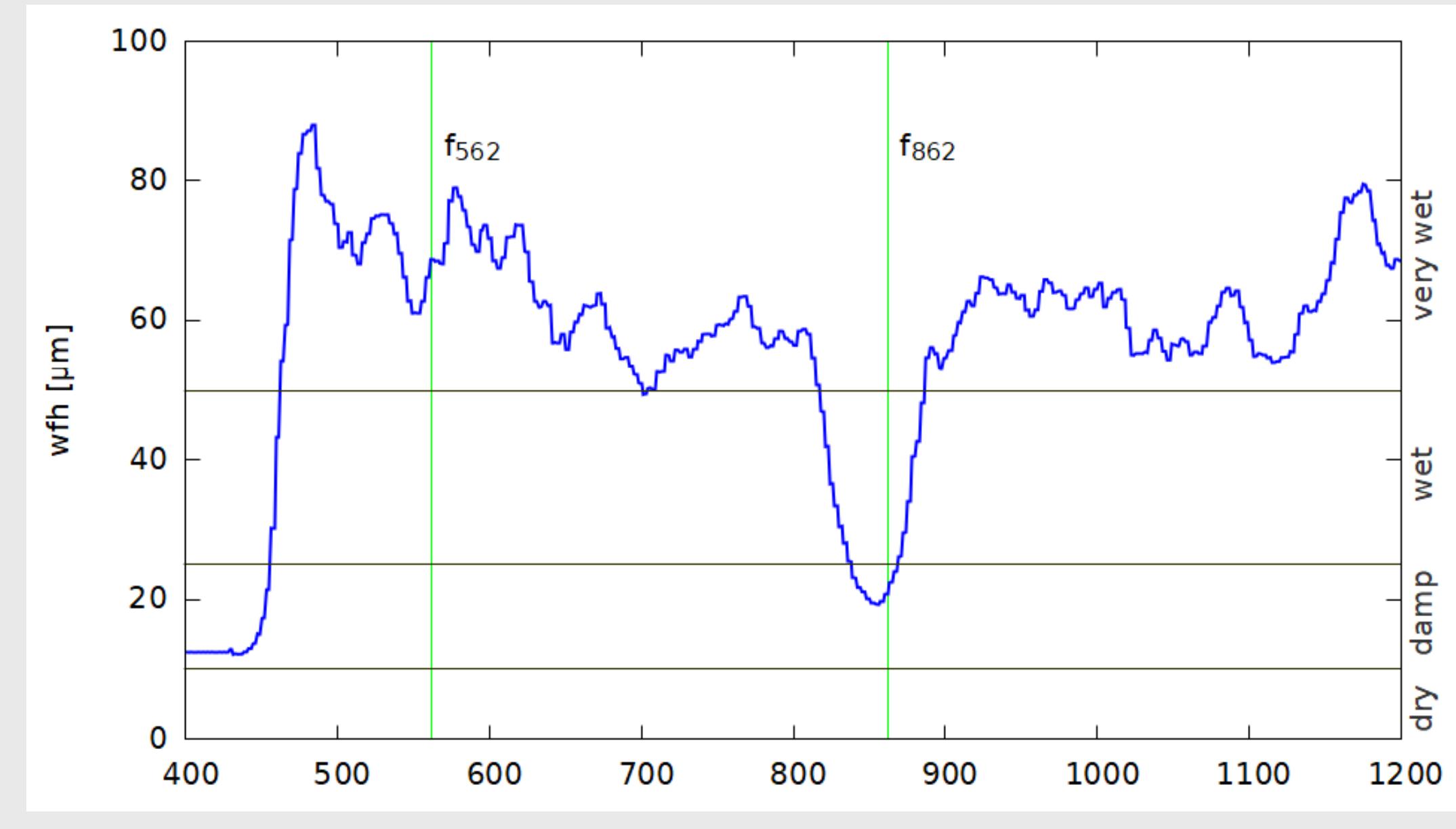
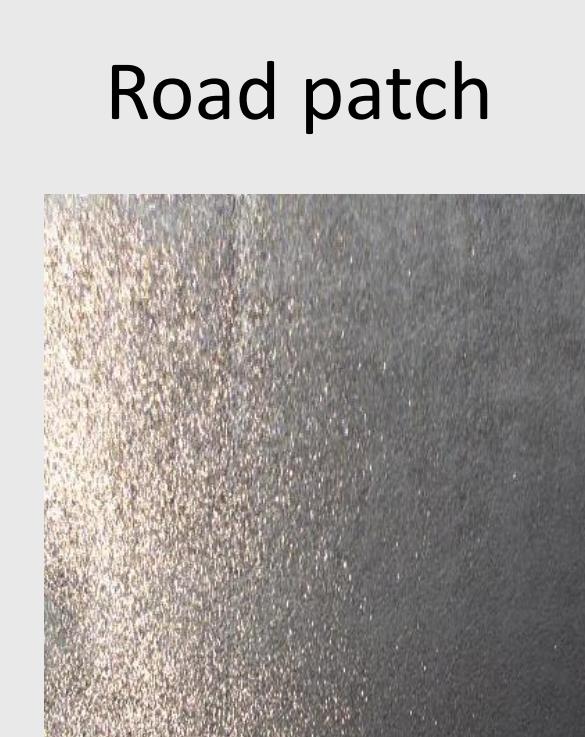
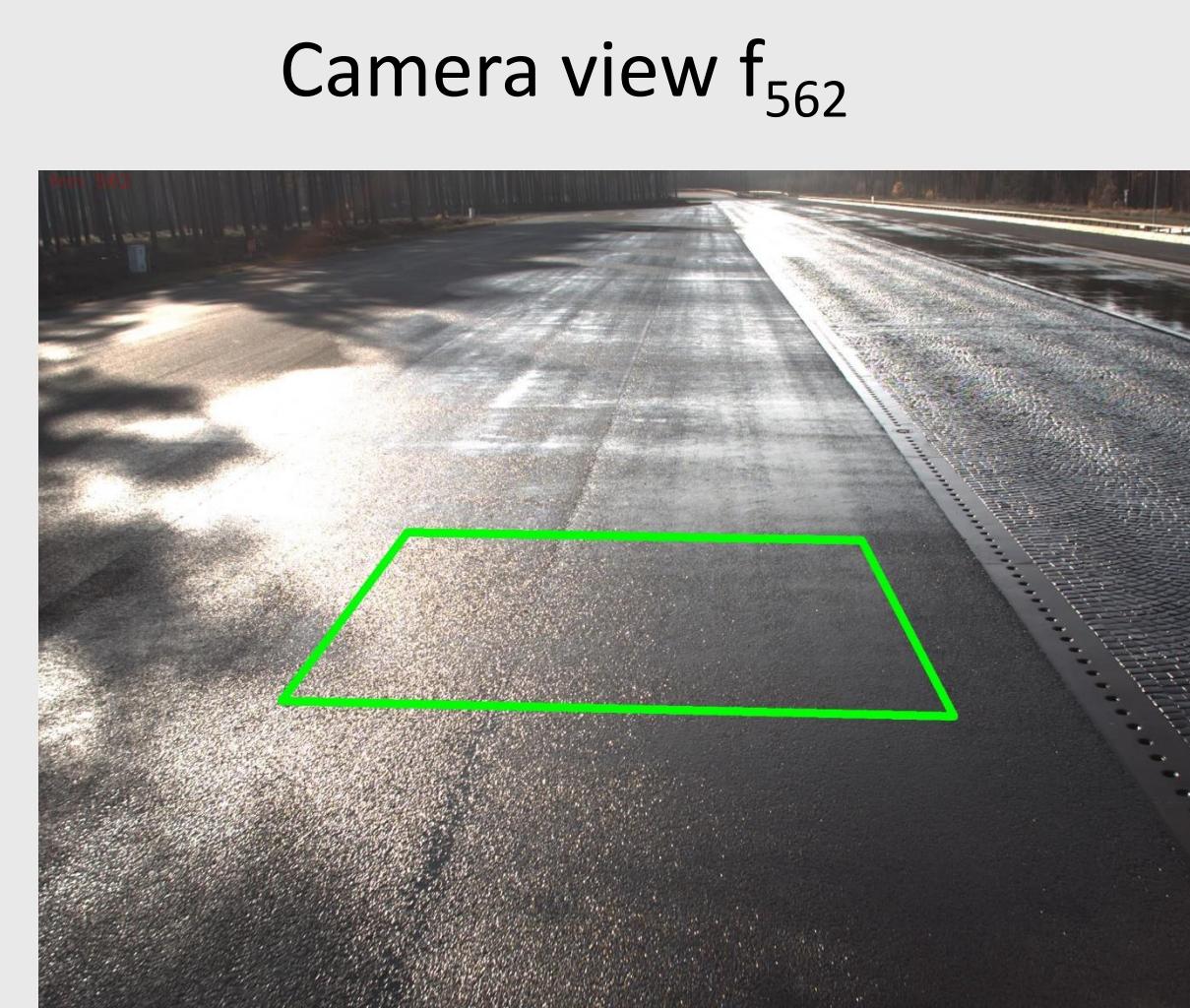
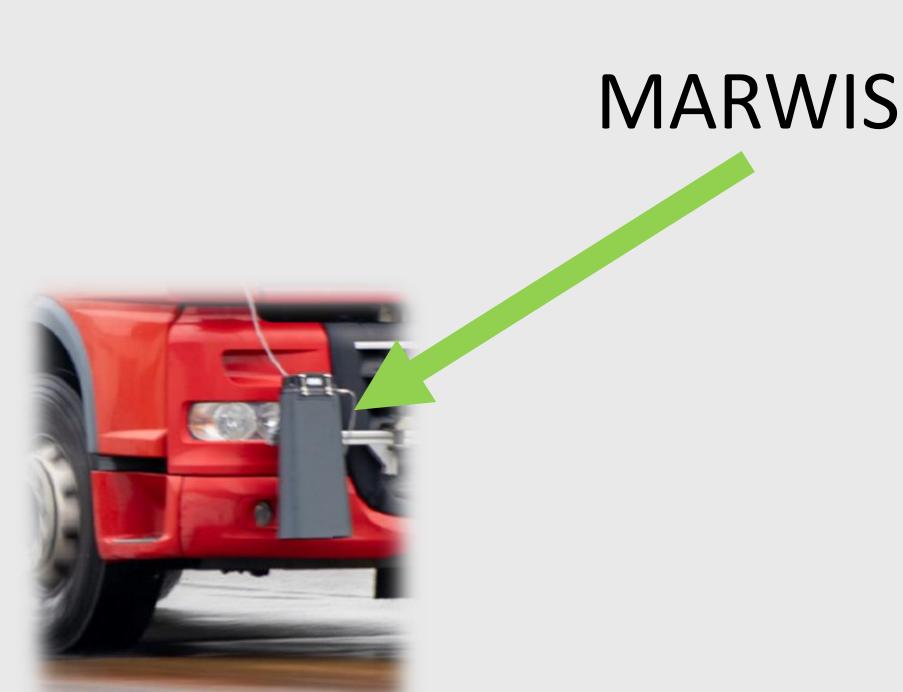


Gefördert durch:  
Bundesministerium  
für Verkehr und  
digitale Infrastruktur  
aufgrund eines Beschlusses  
des Deutschen Bundestages  
inFUND  
Das Startkapital für die Mobilität 4.0

## RoadSaW Dataset [1]

### Data Acquisition

- Surfaces: asphalt, cobble, concrete
- Wetness annotation: MARWIS
- Calibrated cameras
- > 250 sequences



## Evaluation Example [1]

### Real Time Inference

- MobileNet V2 [2]
- Confidence Estimation
- RBF-Network [3]

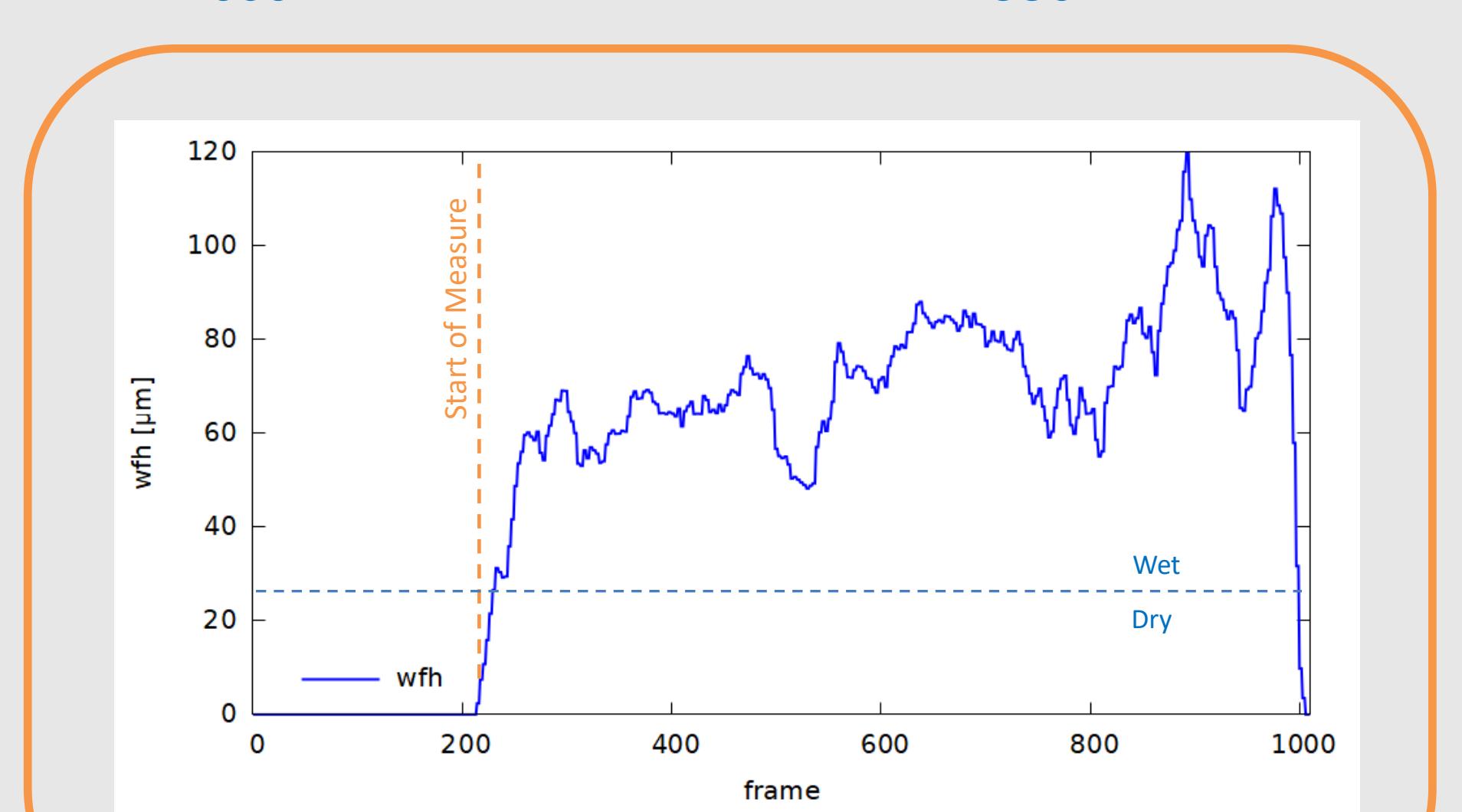
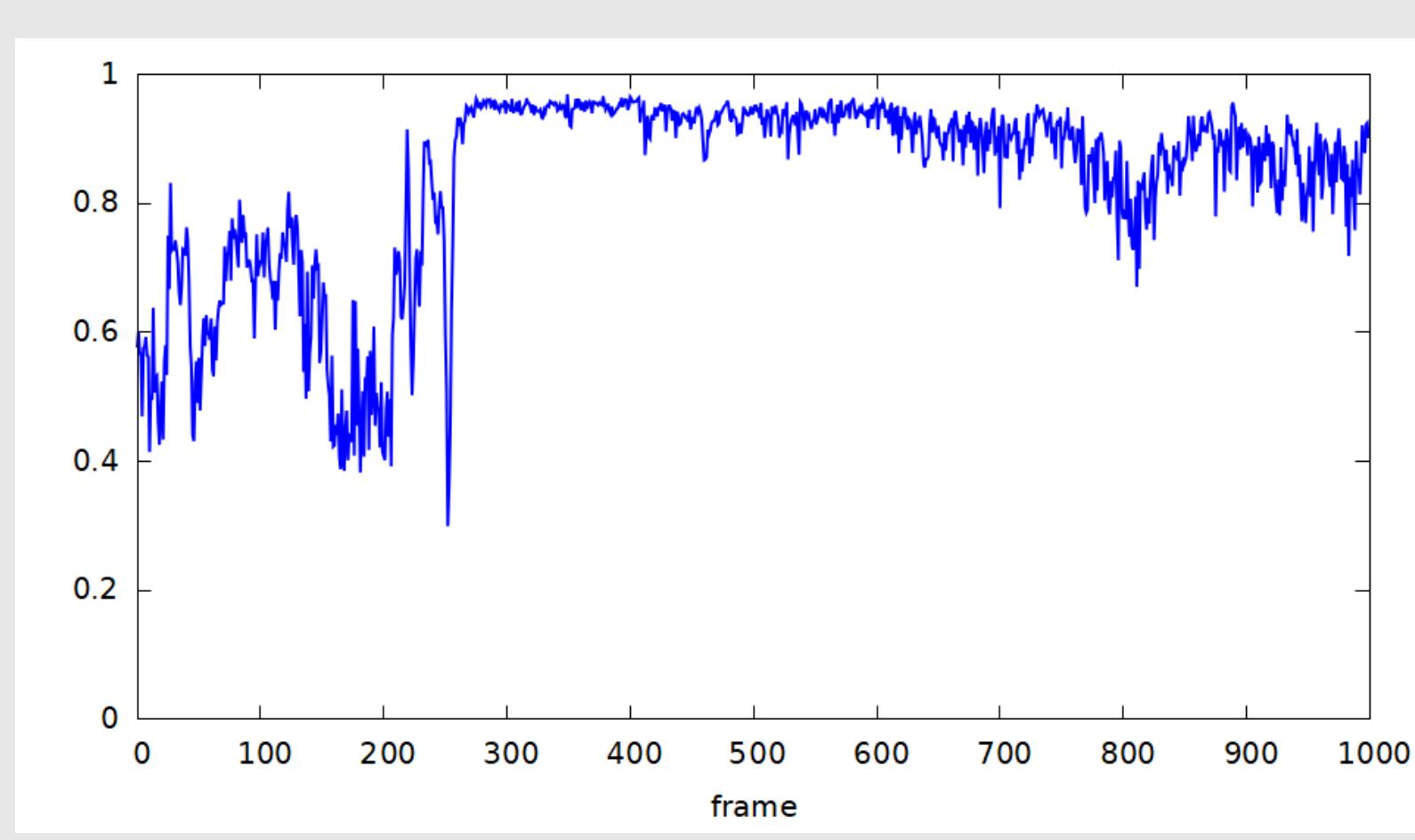
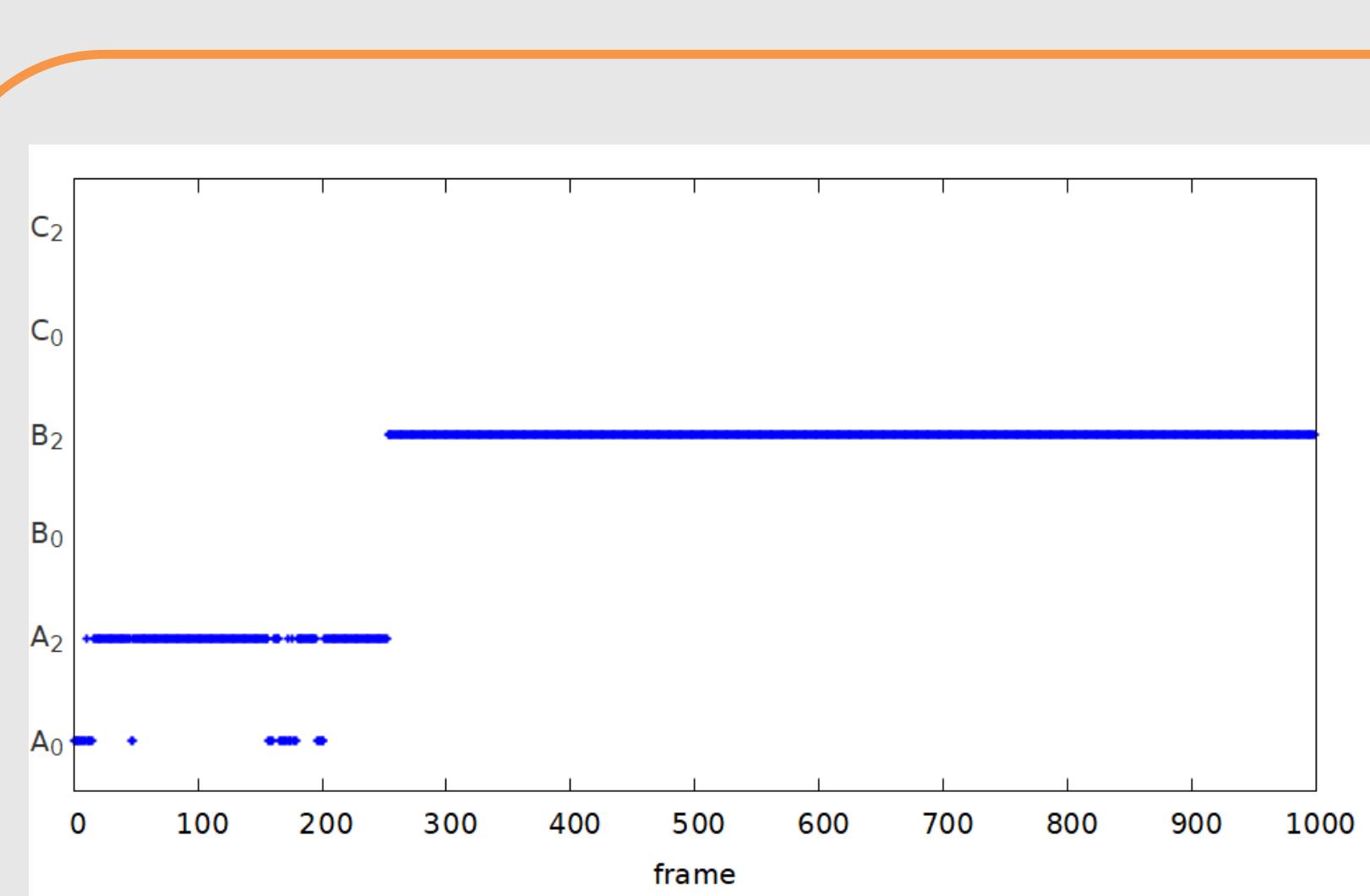


f<sub>150</sub>

f<sub>250</sub>

f<sub>600</sub>

f<sub>950</sub>



[1] K. Cordes, C. Reinders, P. Hindricks, J. Lammers, B. Rosenhahn, H. Brozio:

RoadSaW: A Large-Scale Dataset for Camera-Based Road Surface and Wetness Estimation, CVPR Workshop on Autonomous Driving 2022

[2] M. Sandler, et al.: MobileNetV2: Inverted residuals and linear bottlenecks, CVPR 2018

[3] J. van Amersfoort, L. Smith, Y.W. Teh, Y. Gal: Uncertainty estimation using a single deep deterministic neural network, ICML 2020