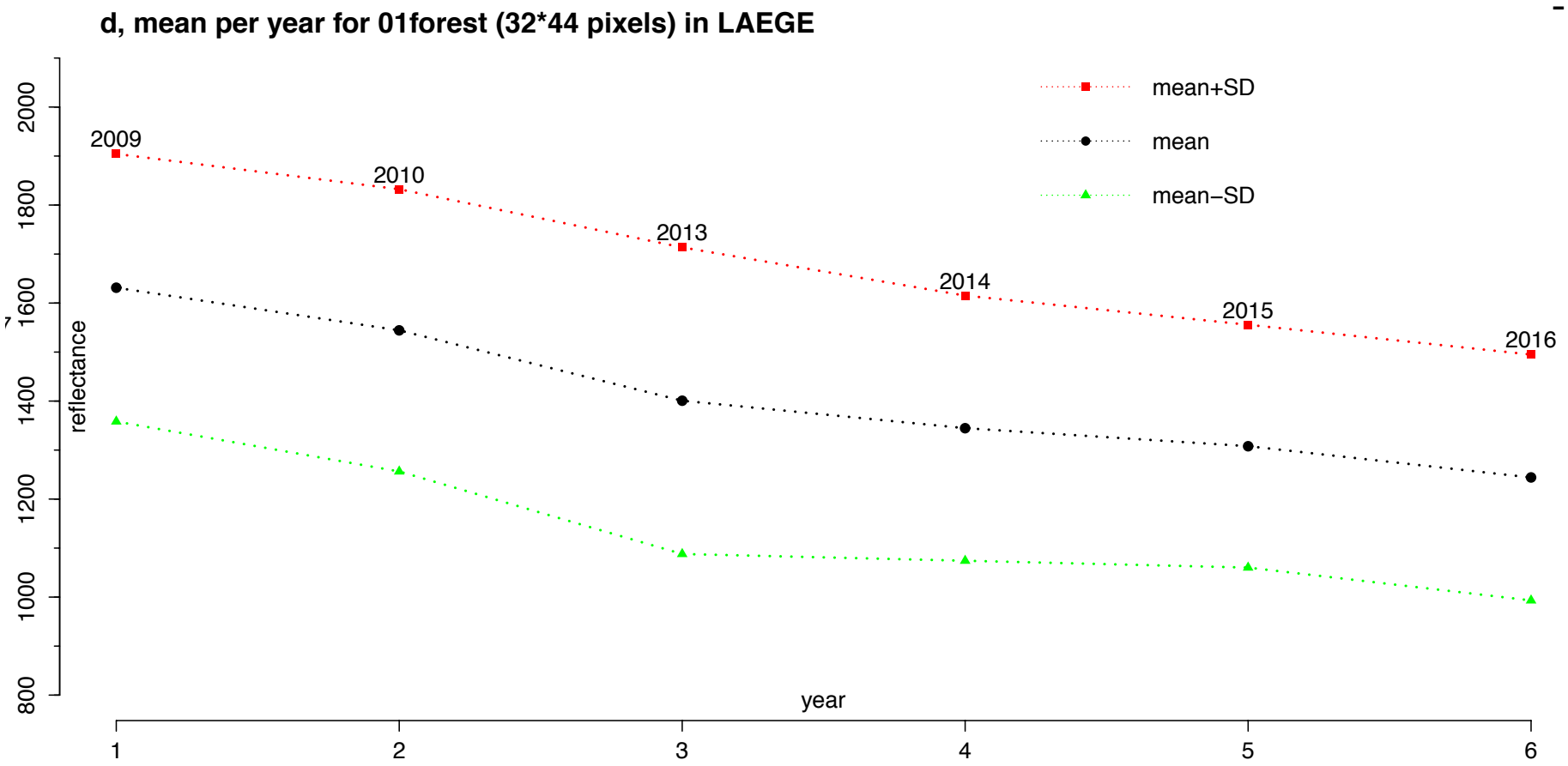
APEX Vicarious –Validation/Calibration

Background – APEX Vicarious –Validation/Calibration

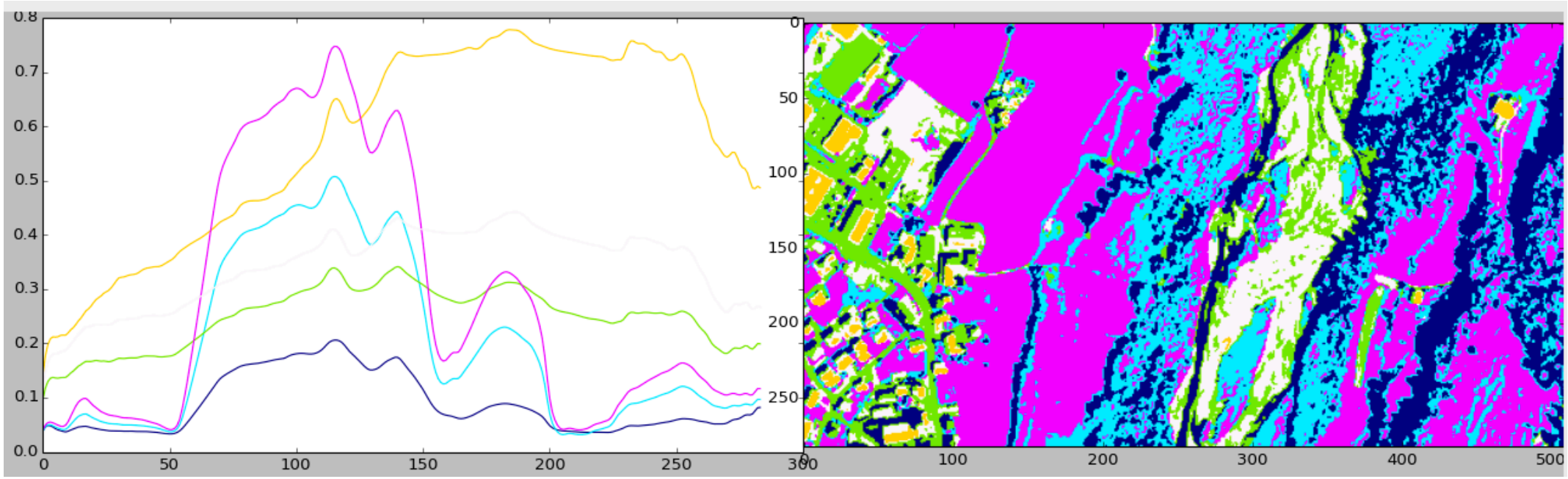


- The APEX sensor shows some degradation over time and some instability, in particular in 2015-2016

apex Airborne PRISM Experiment

Aims

- Establish an automated method for vicarious calibration of APEX data for scenes where no ground validation sets exist
- Validate the above method on sites where ground validation exists



Methodology

- Automated Landcover classification on reflectance data
- Spectral means and standard deviations per landcover class
- Check of signatures versus spectral database signatures
- Calculation of landcover specific correction factors at radiance level
- Correction factor spectral smoothing and regression versus radiance ranges
- Application of factors to a time series and analysis of impact of vicarious calibration routine

Requirements & Benefits

- Matlab programming
- Use of existing classification algorithms written in Python
- Use of SPECCHIO spectral database for ground based signature information

- Learn how the assess the radiometric quality of an airborne dataset
- Apply radiative transfer codes (Modtran) and vicarious methods built into ATCOR in a real life scenario
- Learn how to work with time series data
- Learn more about sensor calibration and sensor models
- Learn how to deal with multiple, large data sets

Contact

Andy Hueni
ahueni@geo.uzh.ch