Master Thesis

“Global Data exploration of recent NASA’s OCO-2 and ESA’s TROPOMI to study regional carbon cycle”

NASA’s OCO-2 (launched September 2014) and ESA’s TROPOMI (launched October, 2017) provide tremendous opportunities to study regional carbon cycle by measuring important greenhouse gases like CO₂, atmospheric trace gases (CO, CH₄, O₃, NO₂, and SO₂) and solar induced fluorescence (SIF) which indicates ecosystem’s photosynthetic activity. These data are crucial for monitoring the atmospheric composition to detect air pollutants, ecosystem changes and has potential to study regional carbon cycle. This Master thesis aims at extensive global data exploration of these two satellite products to find prominent data patterns and explore their potential to study regional carbon cycle. Knowledge or interest in spatiotemporal analysis of satellite data and programming skills (Matlab, R or Python) are preferred. Experience with dealing with large netcdf (.nc) files will be beneficial.

This thesis will be jointly supervised by

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Please contact us if you are interested.

Relevant research papers:


