



Inverse and forward modelling of CH₄ using ACTM

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An inverse modelling system for estimating CH₄ emissions from 53 land regions is being developed. The results will be compared with existing top-down CH₄ emissions, e.g., the Global Carbon Project's CH₄ intercomparison activity.

The forward simulation results will be compared with campaign-based aircraft measurements, and GOSAT total column retrievals. The analysis will focus on the meridional gradient of CH₄ in troposphere and column data. Effect of CH₄ loss due to hydroxyl radicals (OH) and stratospheric transport on meridional gradient of CH₄ will be shown.

A perspective for the future satellite mission as well as issues in modelling total column CH₄ (and CO₂) using the state-of-the-art chemistry-transport models will be discussed.