



The ACCALMIE Project

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- ACCALMIE : Approche Coordonnée pour la Chimie et les Aérosols dans Les Modèles du CNRM, Inline et offline
 - Coordinated Approche for Chemistry and Aerosols in CNRM's Models, Inline and Offline
- Main objective : build a common library including all processes related to chemistry and aerosols
 - Stratospheric and tropospheric chemistry
 - Primary and secondary aerosols
 - Microphysics, ...
 - Usable by all models (with the creation of model specific interfaces), both offline and inline

Impacts for SURFEX

- All processes related to surface will be treated by SURFEX
 - SURFEX will become the only surface code used at MF
- ‘Chemical’ parts currently only used by MESO-NH
 - Will be used by ARPEGE, AROME, MOCAGE, ...
- Lots of bricks are already ready in SURFEX
 - Dynamical emissions for desertic dust, sea salt, BVOC, DMS
 - Dry deposition velocities
 - Emissions from inventories

Impacts for SURFEX

- But some 'adjustment' have to be done
 - Aerosols emissions in lognormal distribution but some MF models working with sectorial distribution (bins)
 - Emissions from SNAP categories and aggregation
 - **Initialisation for chemical parts**

- Some missing processes
 - **Pollens emissions**
 - Methane emissions
 - Marine's organic compounds
 - Bio-aerosols

Timelines

- ACCALMIE ends in december 2023
- Work on SURFEX code will start soon
 - Base version V9dev
 - Confluence work environment
- Done in cooperation with ESM2025 project