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# T1.3-O2. A framework for systematic testing of an improved wet deposition scheme for the Lagrangian dispersion model FLEXPART

Lagrangian particle models such as FLEXPART (FLEXible PARTicle dispersion model, http://flexpart.eu) are used for inverse modelling and prediction of transport and dispersion of trace species in the management of different kinds of emergencies, including nuclear accidents and CTBT applications. As the reliability of the model results is important, we deem it important to establish more extensive evaluation by developing a testing environment for FLEXPART. Besides the usual software tests for assessing the functionality, performance and the structure-oriented work flow of the code, the physical results have to be proven realistic. Efficient testing of future code additions and modifications are conducted by regression testing. This means that current and future test cases for all parts of the model are collected to make sure that changes do not negatively affect the behavior of the model. Since particulate or particle-borne trace substances undergo wet as well as dry deposition which determines the atmospheric lifetime of many aerosol and soluble gas species, this process is an important part of atmospheric transport modelling. Therefore, the development of this testing environment is first demonstrated for the implementation of an improved wet deposition scheme in the latest FLEXPART version.

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