



BRAM: a reanalysis of Aura MLS chemical observations by the Belgian Assimilation System for Chemical Observations

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BRAM is a reanalysis of Aura MLS observations produced by the Belgian Assimilation System of Chemical Observations (BASCOE). BASCOE is based on a chemistry transport model (CTM) for the stratosphere involving 58 species. All species are advected by the Flux Form Semi-Lagrangian (FFSL) scheme (i.e. Lin and Rood, 1996). The CTM account for gas phase, photolysis and heterogeneous reactions relevant for the stratosphere. Microphysics of Polar Stratospheric Cloud (PSC) is also taken into account in the model by a simple parameterization. For this study, the model is driven by ERA-Interim dynamical fields. The horizontal resolution is set to 2.5° in latitude and 3.75° in longitude. Vertically, the model has 37 levels from the surface to 0.1 hPa which correspond to the ERA-Interim levels in the stratosphere and a subset of them in the troposphere. BASCOE can be run in 4D-Var or EnKF and for BRAM, the EnKF method has been used. The period of the reanalysis starts in August 2004, at the beginning of the MLS mission, and go up to the present. Assimilated species are MLS retrieved profiles of O_3 , CO, H_2O , N_2O , HNO_3 , HCl, ClO and CH_3Cl .

This contribution will present the setup of BASCOE, the evaluation of BRAM and the way to get the data.