



coupling of gas-phase chemistry to ICTP-Regional Climate Model (RegCM)

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The framework of ICTP-RegCM is coupled with full gas-phase chemistry. The main object of this work is to study the impact of ozone on regional climate change. Our gas-phase mechanism is based on (Ito et al. 2007 and Sillman et al. 2007.). This gas phase mechanism has 532 reactions, and 175 compounds, 21 compounds are transported, including NO_x, O₃, CO, SO₂, H₂SO₄, CO, HCHO, DMS, H₂O₂, HNO₃, PAN, ISOP, CH₄, ...

Full gas-dry deposition module is coupled with RegCM to compute the interactive gases dry deposition.

Different gas phase mechanisms have been tested as box model and validated using gas-chamber data. We use such comparison to select the fastest mechanism for climate-chemistry simulation. We select (Ito-Sillman) mechanism to be coupled with RegCM because it is comprehensive and fast.