

A fast stratospheric ozone chemistry scheme and its potentials for data assimilation

Authors:

Michel Bourqui
Chris Taylor

Presenter: Michel Bourqui

McGill University

Brief Abstract:

We introduce here a computationally efficient chemical scheme, the FAst STRatospheric Ozone Chemistry (FASTOC) scheme, which has advantages over many existing fast methods, as it does not rely on relaxation to assumed conditions, does not rely on tuning parameters, and does not rely on linearization approximations. The scheme is nevertheless three orders of magnitude faster than an on-line kinetic equations solver. The scheme is based on pre-computed non-linear transfer functions that can be directly used on-line in the atmosphere model. In this talk, the FASTOC scheme will be presented with an evaluation of its performance. Some potentials for use of such a scheme in data assimilation will also be discussed.