

Séminaire ven 19 Fév 2010 11h / Seminar Fri Feb 19th 2010 11h

Conférencier/Lecturer: Janusz Pudykiewicz

Sujet/Subject: The global icosahedral model
with quasi-Lagrangian vertical
coordinates

Présentation/Presentation: Anglais / English

Lieu/Room: Salle des vents (Dorval)

iweb: <http://web-mrb.cmc.ec.gc.ca/mrb/rpn/SEM/>

web: <http://collaboration.cmc.ec.gc.ca/science/rpn/SEM/index.php>

Résumé/Abstract

The efficient numerical integration of high resolution Numerical Weather Prediction and climate models on massively parallel computers of new generation requires flexible grids with quasi uniform resolution over the entire globe. The shallow water icosahedral global system constructed during the past three years is used as a kernel for the development of such a model. The extension of a two dimensional model to a three dimensional one is facilitated by the use of the quasi-Lagrangian vertical coordinates. The anticipated memory and CPU gains with the proposed technique are of the order of 200-300%. The finite volume methodology employed allows flexible coupling of the subgrid-scale processes and atmospheric chemistry with the dynamical part of the model and admits very straightforward construction of the adjoint codes for data assimilation.