Séminaire vendredi le 15 mai 2015 11:00 / Seminar Friday May 15th 2015 11:00h

Sujet/Subject: On the discretization and time integration
              of geophysical fluid dynamics equations on a rotating spheroid

Langue/language   : Anglais/English

Conférencier/Lecturer: Janusz Pudykiewicz (RPN)

Résumé/Abstract:

The main objective of this talk is to present, in a consistent manner, the time and space discretization of the geophysical fluid equations on a planet with an arbitrary spheroidal shape. In the first part I will compare the tensorial and discrete exterior calculus approaches to the problem. The semi-discrete system of the ordinary differential equations obtained from these two techniques could be advanced in time using the exponential propagation method which provides an elegant and accurate solution to the forecast problem. The most recent results concerning the efficiency issue and a comparison to the semi-implicit time integration method will also be outlined.