Météorologie dynamique

Lecturer
Stéphane VANNITSEM (Coordinator)

Course mnemonic
PHYS-F450

ECTS credits
5 credits

Language(s) of instruction
French

Course period
First term

Course content

The aim of the course entitled 'Dynamical Meteorology' is to introduce the fundamental aspects of the atmospheric dynamics at large scales (basic equations, common approximations for the description of large scale flows, baroclinic and barotropic instabilities...), to briefly describe the techniques used in order to perform a forecast (data assimilation, numerical methods) and to present the intrinsic features of the atmosphere limiting the forecast horizon (chaotic behavior and Lyapunov exponents, dynamics of initial condition and model errors) in the context of generic models (low-order models, spatially distributed systems and intermediate order models).

Objectives (and/or specific learning outcomes)

General knowledge in dynamical meteorology

Pre-requisits and co-requisits

Co-requisites courses

PHYS-F411 | Physique non-linéaire | 5 crédits

Teaching method and learning activities

A series of theoretical courses (2.5 ECTS). A personal work (2.5 ECTS).

Other information

Contact(s)

Stephane.Vannitsem@meteo.be

Evaluation method(s)

Other

Evaluation method(s) (additional information)

An oral exam. A report and a discussion of the personal work.

Programmes

Programmes proposing this course at the faculty of Sciences

MA-PHYS | Master in Physics | finalité Research/unit 2 and finalité Teaching/unit 2