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MODES: open-access software for the normal-mode representation of the global 3D circulation

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The goal of the talk is to present MODES, software for the normal-mode function representation of the 3D global datasets. The software, developed within the ERC project MODES, is now available to atmospheric research community as an open-access tool.
MODES allows one to diagnose properties of balanced and inertio-gravity (IG) circulation across many scales by considering both mass and wind field and the whole model depth. In particular, the IG spectrum, which has only recently become observable in global datasets, can be studied simultaneously in the mass field and wind field and considering the whole model depth. The software can be used for the comparison of climate model outputs with the reanalysis datasets.
The presentation will include theoretical background and basic technical details of the software that can be installed and used with a relatively modest effort.
Example of the software outputs are available in real-time at http://meteo.fmf.uni-lj.si/MODES.
Results from the modal analysis of the ERA Interim dataset as well as the ensemble prediction system of ECMWF are presented.