Real-time application of MODES to the operational medium-range forecasts of ECMWF

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http://meteo.fmf.uni-lj.si/MODES
Real-time modal view of the ECMWF forecast
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Real-time modal view of the ECMWF forecast

Permanent job at ECMWF: interpolation of the operational 10-day forecast from 00 UTC to N128 grid (512x256 points) on 137 model levels from the surface up to 1 Pa with 12 hour step

Projection to the 3D normal modes: as soon as 00 UTC forecast is available, projection is performed to 200 zonal waves, 70 meridional modes and 70 vertical structure functions. Filtering of the balanced and inertio-gravity circulation and the Kelvin waves is carried out for the whole 3D space.

Visualization is performed partly in Matlab (spectra and equatorial cross sections), partly in NCL (maps of circulation) and the MODES webpage is refreshed by the morning coffee time.
Archive of the MODES products since Oct 2014

Average Kelvin wave in July 2015 at 100 hPa

Average Kelvin wave in July 2015 at 150 hPa

Average Kelvin wave in July 2015 at 850 hPa