ATMOSPHERIC DYNAMICS

- Introductory part. Basic equations. Full form and simplifications
- Coordinate systems-Isentropic analysis
- Ageostrophic motion
- Velocity potential-Stream function. Helmholtz decomposition
- Equation Taylor Goldstein
- Atmospheric waves in small and large scale. Rossby waves. Internal and external gravity waves. Stationary waves
- Potential vorticity. Conservation and invertibility
- Equation of barometric tendency. Applications
- Vorticity equation. Applications
- Geopotential Tendency equation. Applications
- Omega equation. Quasi-geostrophic form
- Q vectors. Applications
- Basic model of Baroclinic disturbances