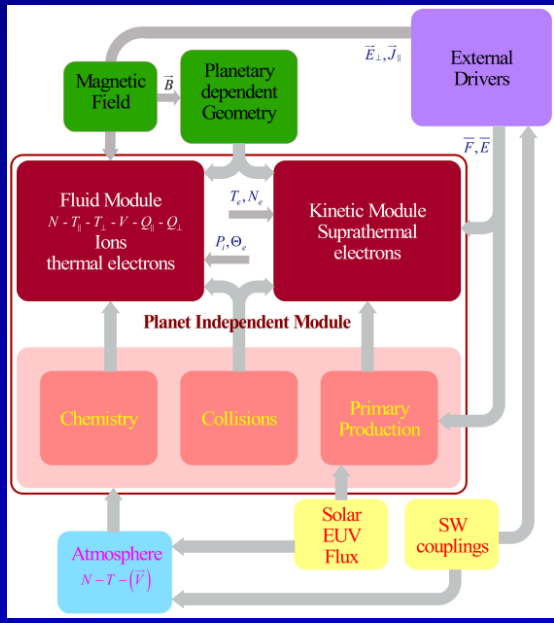
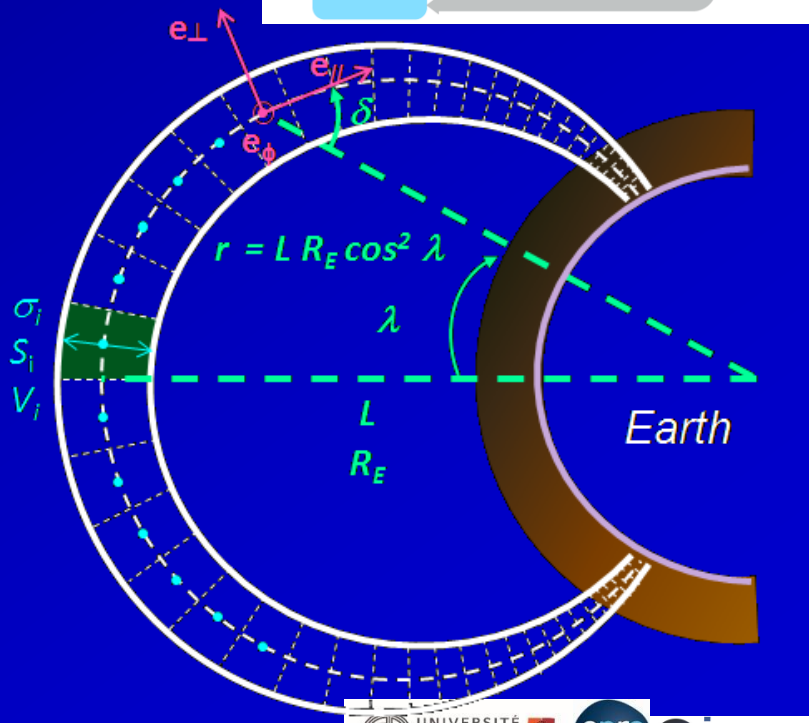
# IRAP Node

- TRANSPLANET
  - http://transplanet.irap.omp.eu/
- Online access to IPIM model
  - Available for ≠ planets
  - Restricted access
    - ✓ Photoionization
    - ✓ Species
      - Neutrals (not solved)
      - Ions
- Multiple flux tubes
- Batch runs
  - Email for completion
- Data in different formats
  - Open data access
  - Full parameters
    - ✓ Binary IPIM format
  - Main parameters
    - ✓ NetCDF
    - ✓ CDF

# IPIM features

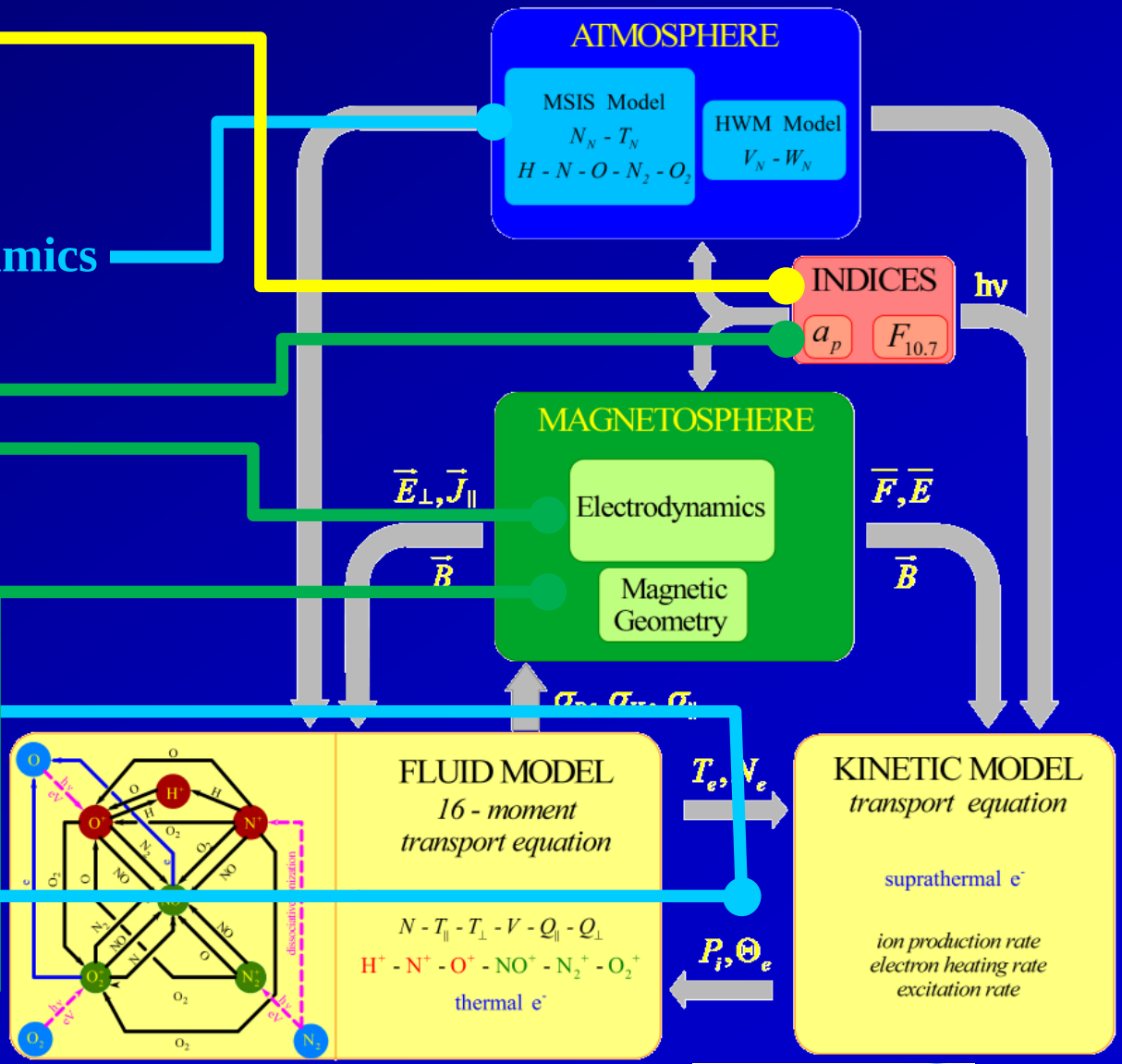
- Interhemispheric model
  - ionosphere-plasmasphere description
    - ✓ at mid- and low- latitudes
  - transport equations solved along flux tubes
    - ✓ closed magnetic field line :interhemispheric
    - ✓ open magnetic field line : High latitude
  - Coverage
    - ✓ latitudes
      - interhemispheric: 10° < | Mlat | < 60°
      - High latitude: >60°
    - ✓ Altitudes
      - Minimum: 80-90 km
      - interhemispheric 6 Re
      - High latitude ≤ 6 Re
  - Magnetic field lines
    - ✓ Tilted and eccentric dipole



# IPIM architecture

- Sun
  - Activity
- Inputs to the model
  - Atmosphere
    - ✓ **Structure and dynamics**
  - Magnetosphere
    - ✓ **Activity**
    - ✓ **Electrodynamics**
- Ouputs form the model
  - Atmosphere
    - ✓ Production rates
      - **Ions**
      - **Excited states**
    - ✓ Heating rates
      - **Joule heating**
      - **Electron heating**
  - Magnetosphere



# *IRAP commitments*

- Guaranteed access to **TRANSPLANET** Webservice
  - Maintenance
  - Software update
    - ✓ Processes
    - ✓ Species
    - ✓ Run facilities (lifting of restriction)
- User support
  - Best effort
  - Run preparation
    - ✓ Run definition : input data
    - ✓ Description of output data
  - Run analysis
    - ✓ Description of the model and equations / parameters solved
    - ✓ Support to data access and display
    - ✓ No commitment to assist in the interpretation of results
- Hosting
  - IRAP can host researchers for scientific collaboration
    - ✓ Simulations with unbridled IPIM version
    - ✓ Data access with CDPP