An infrastructure to bridge the gap between spacecraft data bases and the scientific modelling tools, enabling their joint interconnected operation for the better understanding of related physical phenomena.

Main goal: Creation of an integrated interactive IT framework where data from space missions will be interconnected to numerical models, providing a possibility to:

1. simulate planetary phenomena and interpret spacecraft data;
2. test and improve models versus experimental data;
3. fill gaps in measurements by appropriate modelling runs;
4. solve technological tasks of mission operation / preparation.

Primary scientific focus of IMPEx: plasma & magnetic field environments of...

- **Mercury** (BepiColombo)
- **Earth** (Cluster, Themis)
- **Saturn & Titan** (Cassini-Huygêns)
- **Jupiter & Ganymede** (Galileo, JUICE)
- **Venus** (VenusExpress)
- **Mars** (MarsExpress)
- **Comet 67P** (Rosetta)
- **Saturn** & **Titan** (Cassini-Huygêns)
- **Jupiter** & **Ganymede** (Galileo, JUICE)

**IMPEX major functionalities**
- Visualization / downloading / analysis of data from model runs;
- Superimposing model data with the spacecraft measurements;
- Request of specific model runs;
- Scientific tools / functionalities for the support of preparation and operation of space missions (virtual spacecraft in model space)

**IMPEX resources**
- **Modelling sector** (codes & computing infrastructure):
  - 3D hybrid platform HYB (FMI, Finland);
  - 3D hybrid code (CNRS/LATMOS);
  - MHD platform GUMICS (FMI, Finland);
  - 3D Paraboloid Magnetospheric Model (SINP, MSU, Russia).

**Data operation sector**
- **AMDA** - Automated Multi-Dataset Analysis interactive database; Tool: [http://cdpp-amda.cesr.fr](http://cdpp-amda.cesr.fr)
- **3DViewMultimission** - 3D visualization and ephemerides ([http://3dview.cesr.fr](http://3dview.cesr.fr));
- **CLWeb** - reading, calibration, plotting of data ([http://clweb.cesr.fr](http://clweb.cesr.fr));

**Consortium**

1. **IWF-OeAW**, Graz, Austria
2. **FMI**, Helsinki, Finland
3. **CNRS**, France
   - LATMOS, Paris
   - IRAP-CDPP, Toulouse
4. **SINP**, Moscow State Univ., Russia

**Facts and numbers**

- Project Number: 262863
- Budget: €2,000,000
- Official Start: June 1st, 2011
- Duration: 4 years

**Key roles**

- Coordinator: M. Khodachenko (IWF-OeAW)
- Deputy-Coord: E. Kallio (FMI)
- Project Scientist: V. Genot (CNRS/IRAP)
- Project manager: T. Al-Ubaidi (IWF-OeAW)
- WP Leaders: M. Gangloff (CNRS/IRAP), I. Alexeev (SINP), W. Schmidt (FMI), M. Khodachenko (IWF-OeAW), T. Al-Ubaidi (IWF-OeAW)

**IMPEX Website**: [http://impex-fp7.oeaw.ac.at](http://impex-fp7.oeaw.ac.at)