Training Opportunity for Swiss Trainees

Reference	Title	Duty Station
CH-2019-SCI-PRM	**Calibration of JUICE instruments**	**ESTEC**

Overview of the unit's mission:

The JUpiter Icy Moons Explorer (JUICE) is a mission chosen in the framework of the Cosmic Vision 2015-2025 programme of the Science Directorate of the European Space Agency. It will survey the Jovian system with a special focus on Jupiter and on the three Galilean Moons: Europa, Ganymede, and Callisto. The JUICE spacecraft will be the first one ever to orbit a Moon (Ganymede) of a Giant planet. JUICE is designed to be compatible with an Ariane 5 launch vehicle, and it currently planned to be launched in May 2022 from ESA's Kourou launch centre in French Guyana.

The JUICE Project Office at ESA is responsible for the implementation of the JUICE mission.

Overview of the field of activity proposed:

The candidate shall be integrated in the Mission Performance Section of the JUICE Project Office and shall as a member of a small team review and prepare the in-flight performance verifications and ground and in-flight calibration activities. As such the candidate will

- Review of instrument performance verification and calibration needs considering both on-ground and in-flight measurements
- Review the available on-ground facilities and provide input on the planning of measurements
- Review in flight spacecraft constraints and evaluate with respect to the identified measurements and identify measurement opportunities; the constraints of the JUICE spacecraft shall be reviewed with respect to the following constraint types:
  - Geometry: target visibility, sun position, etc.
  - Spacecraft: pointing, compatibility with other constraints list, etc
  - Operations: durations, conflicts with other instruments, etc
- The in-flight measurements shall be identified as being periodic, one-off events, systematic (related to upcoming observation opportunities, such as fly-bys), etc and a preliminary plan shall be compiled

As a result, input to a feasible of instrument verification and calibration plan shall be provided.

Required education:

Master in physics or an engineering discipline with emphasis on instrumentation.