

Training Opportunity for Belgian Trainees

Reference	Title	Duty Station
BE-2019-TEC-EPS(2)	Space Weather tools harmonisation for Lagrange mission detector interference issues and instrument performance during SPEs	ESTEC
<p><u>Overview of the unit's mission:</u></p> <p>The Space Environments and Effects Section supports the development of ESA missions and programmes by investigating the space environments within which they will operate, assessing likely effects and defining mitigation methods. Environments addressed include: High-energy radiation from radiation belts, solar-particle events and cosmic rays; plasmas encountered in planetary magnetospheres, the solar wind and artificially-generated charges and fields on spacecraft; micro-meteoroids and non-trackable debris as well as planetary atmospheres. The Section also initiates and manages related technology R&D activities. See its web page (http://space-env.esa.int) for more details.</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>TEC-EPS, as part of the space environments and effects community, has over the years produced a large number of Space environment and Space Weather models, services, tools and data sources to support current and future ESA missions. These tools and services have been developed in relative isolation and therefore vary considerably in their implementation, with some of them made available under the SPENVIS system and others operated in a stand-alone fashion. In addition, these tools and services are aimed at a range of end-users and therefore can also range in their inputs and outputs, documentation levels and availability.</p> <p>In this context the work will include primarily the harmonization of these models, services, tools and data to allow more complex analysis and pipelining of models into workflows. In addition, standardisation of the way these tools are accessed (web, RESTful APIs etc.) would open up their wider use in other services developed by both ESA and the community.</p> <p>In addition to this harmonization effort, the developments will be tested and applied in the context of the planned ESA Lagrange L5 mission regarding the performance of the planned mission instruments, in particular by evaluating detector interference encountered from energetic radiation during large Solar Particle Events (SPE) and during other environment conditions.</p>		
<p><u>Required education:</u></p> <p>Applicants should have just completed, or be in their final year of a University course at Masters Level (or equivalent) in a relevant technical or scientific discipline. In addition, applicants should demonstrate good interpersonal skills and the capacity to work both independently and as part of a team.</p>		