

The Space Plasma Physics group at the Space Research Institute ([IWF](#)) of the Austrian Academy of Sciences ([OeAW](#)) invites an application for a

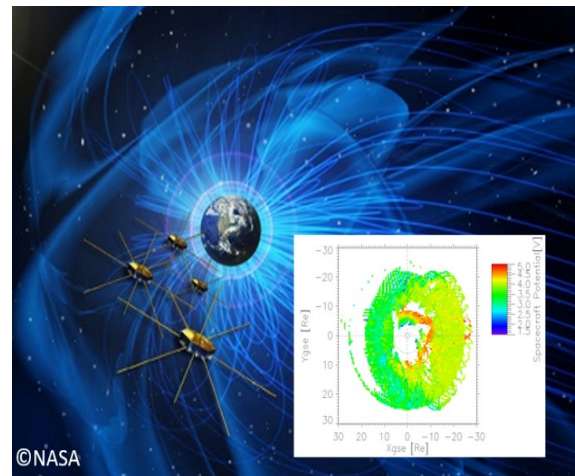
## MASTER STUDENT POSITION (F/M/X)

### *in Space Plasma Physics*

(50%, 20h per week)

The position is planned for a master student for an eight months period to work with data from NASA's MMS mission (<https://mms.gsfc.nasa.gov/>) on a master thesis project about the Earth's plasmasphere structure and its dynamics during geomagnetic storm.

**Background:** The inner magnetosphere consists of plasmasphere, a low-energy dense plasma region, and the radiation belt/ring current, which contains high energy particles population trapped in the dipole magnetic field. The outer edge of the plasmasphere is called plasmopause where the density significantly drops. The density profile of the inner magnetosphere, including the plasmopause location, significantly changes during geomagnetic storms and determines the mode of the wave-particle interaction and thereby the energetic particles flux in the radiation belt as well as auroral precipitation that are key elements of the space-weather in the near-Earth space.



**Your task:** Using a new density data product obtained from the information of spacecraft charging onboard MMS spacecraft, temporal and spatial changes of the plasmasphere during the geomagnetic storm are statistically examined to construct a density model of the inner magnetosphere. The result is then validated by comparing with other density profiles obtained from plasma and wave data. The MMS provides new capabilities of in-situ observations of space plasma by differentiating spatial structures from temporal changes. The successful candidates will work with a team of active up-front researchers of these missions.

**Your profile:** Master course student in astrophysics, geophysics, space science, technical physics, or "Space Sciences and Earth from Space"; Programming skills; English communication skills

Gross salary of € 1301,05 (20 hours a week) per month will be provided for an 8-month term. Review of applications will begin October 1, 2024, and will continue until the position is filled. Applications should include one-page curriculum vitae, statement of research interest and academic certificates. If interested, please submit your electronic applications to Doz. Dr. Rumi Nakamura ([rumi.nakamura@oeaw.ac.at](mailto:rumi.nakamura@oeaw.ac.at); 0316 4120 573)

*The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply.*