

Das Institut für Physik

Fachbereich Astrophysik und Geophysik

lädt zu folgendem Vortrag

im Rahmen des **Astrophysikalischen Kolloquiums** ein:

"7 years of modelling with EUHFORIA: from Coronal Holes and Open Fields to Flux ropes"

Dr. Eleanna Asvestari

Academy Research Fellow at the Particle Physics and Astrophysics
Space Physics Research Group of the University of Helsinki

Global coronal and heliospheric models, whether they are simplistic or advanced magnetohydrodynamic (MHD) ones, are a great tool for solar and space physics. Not only they can support our interpretations of observations but also can lead to new discoveries that would otherwise not be possible by single point measurements scattered at a few heliodistances or by remote images of the Sun. Understandably they have the potential to close a bit the gap in knowledge, but, at the same time they come with limitations, uncertainties, and many unknowns. One such model is EUHFORIA (EUropean Heliospheric FORecasting Information Asset), a two-part model consisting of a simplistic MHD-based coronal model and a state-of-the-art 3-dimensional MHD model that can simulate High Speed Streams (HSS) and Coronal Mass Ejections (CMEs) in the inner heliosphere. Throughout this presentation, we will explore how the coronal model is performing and how it contributes to the studies of the "Missing Open Flux" one of the great open questions in the field of solar physics. We will also explore how the CME model depends on and is impacted by observational limitations, as well as the physics we have unravelled with regards to the evolution of CMEs due to interactions with the interplanetary magnetic field.

Date: **Wednesday April 10, 2024 - 16:00 (Library Experimental Physics)**

Assoc.-Prof.Mag.Dr. Manuela Temmer
☒ Universitätsplatz 5/II, 8010 Graz, Austria

Tel.: +43 (0) 316 / 380-8610
E-Mail: manuela.temmer@uni-graz.at
<http://physik.uni-graz.at/en/astrophysics/temmer/>