

# Synergies in plasma physics: exoplanet habitability and radio emission

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**Abstract:** This presentation discusses synergies between different plasma physics fields, emphasising in the astrophysical plasmas. In particular, exoplanet habitability is a hot topic in the scientific community, devoted to developing new observational as well as numerical models dedicated to analyzing the exoplanet environment. In the last decade, MHD models are applied to study the magnetic field generation by dynamo effect in the convective layer of stars, the production of stellar winds as well as the interaction of the stellar wind with planetary magnetospheres. We show the last advances in the modelling efforts to analysis the effect of the space weather conditions on the exoplanet habitability, that is to say the interaction of the stellar wind and the exoplanet magnetosphere. In addition, the radio emission from exoplanet magnetospheres is numerically evaluated identifying trends regarding the space weather properties

On-line  
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