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Christina Arras é graduada e Ph.D. em Meteorologia pela Universidade de Leipzig, Alemanha, cujos graus foram obtidos nos anos de 2006 e 2010, respectivamente. Desde 2010 atua como cientista de projeto na instituição GFZ Potsdam, Alemanha. Tem experiência em pesquisa com sondagem ionosférica/atmosférica empregando GNSS, camada E-esporádica e processos de acoplamento ionosfera/termosfera.

Título da Palestra: "Investigating the Earth's lower ionosphere from space: How GPS radio occultation profiles provide a global overview on sporadic E layer occurrence"

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Resumo: The GPS radio occultation (RO) technique established successfully during the last two decades and evolved into a valuable application for precise atmospheric and ionospheric profiling. GPS RO signals are very sensitive to vertical changes in the electron density in the Earth's ionosphere. This issue becomes visible as strong fluctuations in e.g. signal-to-noise ratio recordings, which allow detecting sporadic E layers in the lower ionosphere. Due to the geometry of the GPS RO technique, it enables for the first time receiving a global and comprehensive picture of sporadic E layer occurrence and properties in a high spatial resolution. Sporadic E (Es) layers are thin sheets of enhanced electron density occurring in the lower ionospheric E region, preferably between 95 and 120 km. It is widely accepted that Es formation at low- and midlatitudes is due to the wind shear mechanism when the ionized metallic particles of meteoric origin interact with the lower thermospheric neutral wind field. In polar and equatorial electric fields play and additional important role in the Es layer formation process. In this presentation, we like to give an overview on global sporadic E characteristics. We will demonstrate the varying behavior of this phenomenon at different latitudinal regions and we will illustrate that the Es formation results from complex coupling processes in the thermosphere-ionosphere-magnetosphere system. We will discuss several geophysical parameters such as tidal winds in the upper atmosphere, the presence of metallic ions and the Earth's magnetic field influencing the Es formation.