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Norbert Jakowski é graduado e Ph.D. em Física do Estado Sólido, ambos os títulos obtidos pela Universidade de Rostock, Alemanha, nos anos de 1973 e 1974, respectivamente. Até 1974 atuou na própria universidade de sua formação, quando mudou-se para a Academia Alemã de Ciências e atuou até 1990. Entre 1991 e 2000 trabalhou no departamento de sensoriamento remoto da German Aerospace Center. Desde então, Dr. Norbert Jakowski vem atuando como pesquisador aposentado no Instituto de Comunicações e Navegação e no Instituto de Física Solar-Terrestre da German Aerospace Center.

Título da Palestra: "GNSS based indices for studying and characterizing the ionosphere"

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Palestrante Convidado da Sessão Clima Espacial e Relações Sol-Terra: Quinta-feira, 25 de março de 2021, das 14h00 às 14h40

Resumo: The Earth's ionosphere is impacted by space weather processes and simultaneously contributes also to space weather effects on technical systems. Thus, terrestrial and trans-ionospheric radio signals used in telecommunication, navigation or radar systems may be adversely affected by space weather effects of ionospheric origin. In particular, safety of life and precision applications of Global Navigation Satellite Systems (GNSS) require key information on space weather conditions to warn users if certain protection or accuracy levels are violated due to severe ionospheric perturbations. To fulfill customer needs, the complex interaction of geospheres such as magnetosphere, thermosphere and ionosphere in particular during solar radiation and solar wind driven space weather events has to be monitored and investigated in a systematical way. Taking into account that ionospheric perturbations may seriously degrade the performance of GNSS and other trans-ionospheric radio systems like remote sensing radars, current efforts to characterize the perturbation degree of the ionosphere appropriately will be discussed. The use of geomagnetic indices for characterizing ionospheric perturbations as often practiced is not sufficient to fulfill challenging customer needs when considering quite different spatial and temporal scales of ionospheric behavior. In order to provide the required ionospheric information, numerous attempts have been made to use GNSS based ionospheric variables for estimating type and strength of ionospheric perturbations.

