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A radiometeorological study based on data from Malaysia and Amazon Region (Article)

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Abstract

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Based on rain gauge and radar measurements carried out in Malaysia and Amazon region (Brazil), this paper deals with the description of meteorological factors affecting the radio wave propagation in low latitude areas. As it will be shown along the paper, in spite of the large geographical separation between these two countries similar results have been observed. In this context, the following topics are discussed: a) Climatic classification; b) Rainfall rate features, including the prediction of annual and worst month cumulative distributions; c) Horizontal and vertical spatial distribution of precipitation; d) Path length factor and effective rain height associated, respectively, to terrestrial and Earth-space radio links. The concepts and experimental data presented here are of fundamental relevance for rain attenuation studies at frequencies above 10 GHz in the equatorial region of the world. © 2020 SERSC.

SciVal Topic Prominence ⓘ

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