

ESTIMATION OF RAIN INTENSITY FOR RADIO PROPAGATION STUDIES IN BOLIVIA

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ABSTRACT

The characterization of point rainfall rate, R_p (mm/h), with the aim of estimating rain attenuation, A (dB) caused by a precipitation is of primary interest due to the straight relation between both variables. An accurate description of the behavior of R_p needs yearly statistics obtained from long-term pluviometric measurement campaigns. In absence of this information, prediction models allow yearly Cumulated Complementary Distribution Functions, $P(R)$, to be determined. In the present study, prediction models proposed in different versions of the Recommendation ITU-R P.837 have been implemented in order to retrieve $P(R)$ for different sites in Bolivia. The results obtained lead to preliminary conclude that the model proposed in the last version of the Recommendation would better follow the climatic characteristics of the sites chosen for this study.

Keywords: Atmospheric propagation, rain intensity, rain attenuation.

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