Abstracts

Propagation Measurements at 60 GHz in Railroad Tunnels

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For high data rate communication to high speed trains, the millimetre wave frequency range in the vicinity of 40 and 60 GHz is well suited due to the availability of the required bandwidth and the advantage of small highly directive antennas which enables the discrimination against multipath fading. Tunnels are used very frequently on new tracks for high speed trains. Only little experience is available concerning the propagation characteristics in railroad tunnels at mmwave frequencies. In order to characterise the mmwave radio channel in tunnels propagation measurements in this environment are performed including delay spread and bit error rate measurements.

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