

VEGETATION ATTENUATION AND ITS DEPENDENCE ON FOLIAGE DENSITY

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ABSTRACT

The dependence of vegetation attenuation on foliage density has been investigated. Measurements were conducted on isolated single trees with varying degrees of foliation at SHF frequencies. These trees are Silver Maple (*Acer Saccharinum*), Horse chestnut (*Aesculus Hippocastanum*), Double white hawthorn (*Crataegus oxycantha 'Plena'*) and Dawn redwood (*Metasequoia glyptostroboides*). The measurement geometry adopted is such that the antenna boresight is always pointing towards the canopy for greater illumination. Result of this investigation revealed that as the experimental trees grow more leaves, canopy gap fraction becomes smaller, causing high radiation interception and leading to high signal attenuation. The result is a clear evidence of the significance of foliage in the estimation of vegetation attenuation.

Keywords: Attenuation, foliage density, isolated tree, obscuration, radiation interception.