

Abstracts

Attenuation Constant of Lunar Line and T-Septate Lunar Line

A. Y. Hu and A. Ishimaru. "Attenuation Constant of Lunar Line and T-Septate Lunar Line." 1963 *Transactions on Microwave Theory and Techniques* 11.4 (Jul. 1963 [T-MTT]): 243-250.

The attenuation constant alpha of the lunar line and that of the T-septate lunar line were derived from the average power loss $W_{sub L}$ and the average power transfer $W_{sub T}$ in each line, that is the ratio, $W_{sub L}/2W_{sub T}$. The average power loss and the average power transfer for the lunar line and for the T-septate lunar line were derived from their respective field functions. The theoretical attenuation constant of a typical lunar line is less than 0.7 db/ 100 ft for frequencies greater than 2000 Mc. The theoretical attenuation constant of a typical T-septate line is less than 0.9 db/ 100 ft for frequencies greater than 1000 Mc. Experimental measurements of the attenuation constant of a T-septate lunar line agree with the theoretical value. In the 200 to 2000 Mc frequency band, the lunar line and the T-septate lunar line offer a compact and light package without an appreciable sacrifice in peak power handling capacity or attenuation.

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