Abstracts

Measurement of transmittance and scattering of radome membranes from 30 to 1000 GHz (1997 Vol. III [MWSYM])

M.N. Afsar, I. Tkachov and T. Wells. "Measurement of transmittance and scattering of radome membranes from 30 to 1000 GHz (1997 Vol. III [MWSYM])." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1355-1358.

Transmittance of a number of woven and non-woven radome membranes with various diameter of threads of the fabric and thickness of the laminate has been studied as a continuous function of frequency over the range 30-1000 GHz by utilizing Fourier Transform Spectroscopy. These woven and non-woven radome membranes were manufactured by W.L. Gore and Associates and known as "Gore-Tex". It is for the first time the transmittance has been measured with various angles of incidence of the incident wave. Strong diffractive scattering has been found above the frequency with wavelength comparable with period of the fabrics (240 GHz for the standard Gore-Tex product). Gore-Tex woven membrane materials are suitable for radome applications up to 1000 GHz.

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