

An investigation of Rayleigh distribution in reverberation chamber

Amplitude fluctuations in signals received over mobile radio channels are typically modeled by a Rayleigh distribution. The field statistics in the volume of the enclosure are shown to correspond to the Rayleigh statistics found in properly functioning reverberation chambers when a sufficiently large number of modes is excited. This paper gives an investigation of statistical characteristics in Rayleigh communications channels by using reverberation chamber. Scattering parameters taken from measurement of antenna radiation efficiency using reverberation chamber is implemented into Rayleigh probability density function (PDF) model and it really shows that they are in good agreement with those of theoretically predicted Rayleigh model.