Measurement of the Transient Shielding Effectiveness

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Recently, new definitions of shielding effectiveness for high-frequency and transient electromagnetic fields were introduced by L. Klinkenbusch [IEEE Transactions on EMC, Vol.47, No.3, August 2005]. Numerical results were shown for closed as well as for nonclosed cylindrical shields. The subject of the present work is the determination of the transient shielding effectiveness of a cylindrical enclosure made of conductive textile using ultra wide band pulses inside open TEM-Waveguides: From the measurement of the electric and magnetic field with and without the shield in place, the electric and magnetic shielding effectiveness of the shielding material as well as the transient shielding effectiveness of the enclosure can be derived. In the presentation, the measurement procedure will be shown and the results will be discussed and compared to the simulation results of L. Klinkenbusch.