



IMPEDANCE FREQUENCY CHARACTERISTICS AND MODELING OF RESIDENTIAL APPLIANCES FOR LIGHTNING TRANSIENT ANALYSIS

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Abstract - This paper presents the input impedance characteristics, over a wide range of frequencies, of various electric-electronic appliances, commonly found in residential installations. The measured frequency responses are fitted and modelled by simple, but effective, RLC networks, that can be used in any software for transient simulations. The range of frequencies, up to 5 MHz, allows the use of these models considering lightning or switching studies. The paper includes simulations of internal response of a low-voltage installation with connected equipment and subjected to lightning surges in its entrance.