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Circuit Models for Conducted Susceptibility Analyses of Multiconductor Shielded Cables

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Abstract : This paper presents circuit models to analyze the conducted susceptibility of multiconductor shielded cables in frequency domains using Branin's method, which is referred to as the method of characteristics. These models, Which can be used directly in the time and frequency domains, take into account the presence of both the transfer impedance and admittance. The conducted susceptibility is studied by using an injection current on the cable shield as the source. Two examples are studied, a coaxial shielded cable and shielded cables with two parallel wires (i.e., twinax cables). This shield has an asymmetry (one slot on the side). Results obtained by these models are in good agreement with those obtained by other methods.

Keywords : circuit models, multiconductor shielded cables, Branin's method, coaxial shielded cable, twinax cables
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