

Finite Element Modelling of Braided Wire Shields*

Ruben Otin

CIMNE - International Center for Numerical Methods in Engineering
Parque Tecnológico del Mediterráneo (PMT), E-08860 Castelldefels (Barcelona, Spain)
URL: www.cimne.com , e-mail: rotin@cimne.upc.edu

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Abstract - The transfer impedance of a cable shield is a parameter that characterizes its shielding effectiveness. The aim of this work is to adapt a general-purpose finite element formulation to the computation of this parameter in braided wire shields. The advantage of using a numerical approach, instead of the usual analytical or semi-empirical approaches, is that it reproduces more accurately the high frequency behavior of the transfer impedance and that it can be used in a wider variety of situations where complex geometries and materials may be present. In this work we apply the finite element model presented in [1], and validated for perforated tubes, to the realistic braided wire shields CAD geometries generated by the an extension of the software tool showed in [2] (see fig. 1).

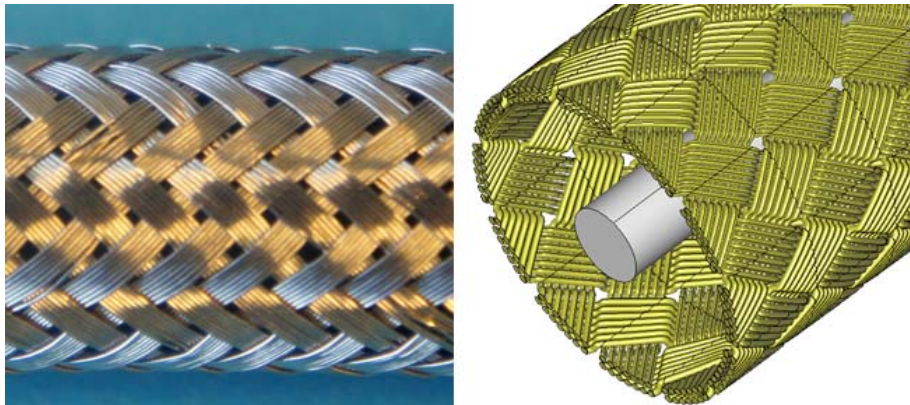


Figure 1. Left: Real braided wire shield. Right: CAD geometry.

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References

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