

# Compact Numerical Models for Efficient Representation of EM Field Propagation Through Dispersive and Anisotropic Media

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**Abstract:** In the paper, compact numerical models for efficient representation of electromagnetic field propagation through dispersive and anisotropic media will be presented. These models incorporated into the TLM method with Z transformation allows to directly map the EM properties of considered media in the time-domain in order to efficiently study their harmonic and transient response. As a result, a powerful numerical tool is obtained for an efficient design of any EM structure.