



ARTIFICIAL REVERBERATION USING A HYPER-DIMENSIONAL FDTD MESH (MonPmOR11)

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★ Abstract :

A hyper-dimensional finite-difference time-domain mesh structure and its application to artificial reverberation modeling is introduced. It is shown to produce reverberation with a dense and irregular modal pattern beneficial for modeling the reverberation in rooms or musical instrument bodies at high frequencies. An example design of a four-dimensional FDTD mesh is analysed. The computational cost of the four-dimensional mesh is shown to be lower than that of a bank of second-order resonators producing the same number of modes.