# A Round Robin on room acoustical simulation and auralization: Results of the simple scenes

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**ABSTRACT**

To evaluate room acoustic modeling software in the physical and perceptual domain, a Round Robin Robin on room acoustical simulation and auralization was recently conducted. In addition to complex, "real-world" rooms, the Round Robin contained several simple scenes in order to identify the abilities of the different simulation algorithm to model specific acoustic phenomena such as reflection, scattering and diffraction. The analysis of the simulations against reference measurements in the temporal and spectral domain revealed that most algorithms properly model these phenomena only in the mid frequency range, but suffer from the fundamental limitations of geometrical acoustics and often do not properly account for scattering or diffraction effects.

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