

On the Acoustics of St Cecilia's Hall: Measurements and Comparison of Wave-based and Geometrical Acoustics Modelling

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ABSTRACT

St Cecilia's Hall, Scotland's oldest purpose-built concert hall, has a distinctive elliptical-domed shape which exhibits non-diffuse acoustical characteristics. This talk presents preliminary results from a study which utilises a state-of-the-art wave-based, finite-difference time-domain (FDTD) simulation platform to investigate the acoustics of St Cecilia's Hall. The outputs of the wave-based simulation are compared to measurements in the space, and to a commercial geometrical acoustics (GA) software that relies on diffuse-field assumptions.

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