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The influence of geometrical features of rooms on their acoustic response - insight based on measurements in physical models

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In a previous paper by the same authors, an analysis of the influence of geometrical features of rooms on their acoustic response was presented (*Acta Acustica*, Vol 93, 2007, 1012-1026). The analysis was based on ray tracing simulation. The results have shown that geometrical characteristics of rooms do influence reverberation time, and this influence is realised by the structure of sound energy paths through the room. It was concluded that room geometry influences reverberation time both at macro and micro levels, and this influence cannot be separated. To validate these conclusions in a real sound field, additional measurements have been conducted in specially prepared physical models of rooms. In several models of different shapes selected from previous results, scaled 1:10, the changes of scattering were introduced by appropriate modifications of interior surfaces. The results have confirmed the previous study conclusions.