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**Assessment of strong reflections in ancient theatres: spatial
information from parallel measurement data**

Giuseppe Rodonò, Marco Gullo, Armando La Pica and Vincenzo Vinci
DREAM, Univ. of Palermo, Viale delle Scienze, Edificio 9, 90128 Palermo, Italy

The sound field in ancient open-air theatres shows a finite time-response in a transient. The structure of the time-response depends on geometrical characteristics of the theatre and source-receiver position: upon geometry dimension of the stage area its possible to observe nearly strong reflections and quantify the associated delay time. Sampling the theatre space with a single microphone does not allow any directional information on the sound field but the parallel use of more microphones and software post-processing could add spatial information. Dataset consists of four synchronized impulse response measured along a radial direction in the theatre plan for different source positions. A directional receiver system based on a post-processing method has been implemented and applied to measurement data. The obtained experimental results are reported and discussed.