

ACOUSTICS2008/2187
**A comparison of measured and theoretical performance of a
co-centred rigid and open spherical microphone array**

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We present a comparison of the measured and theoretical performance of a dual co-centred spherical microphone array that consists of an open spherical microphone array with a smaller, rigid spherical microphone array at its centre. The dual co-centred spherical microphone array has 64 microphones, with 32 microphones on the open spherical microphone array of radius 6.30cm and 32 microphones on the rigid spherical microphone array of radius 1.63cm. We have previously shown [1] that this even distribution of microphones, between the two spherical microphone arrays, provides a greater frequency range of operation for a third-order, 64-channel spherical microphone array compared to a single rigid 64-channel spherical array. The performance of the dual co-centred spherical microphone array is measured in an anechoic chamber using a speaker mounted on a robotic arm. A comparison is made between the theoretical and measured directivity pattern for various frequencies. [1] A. Parthy, C. Jin and A. van Schaik "Optimisation of Co-centred Rigid and Open Spherical Microphone Arrays," in Proc. of 120th Audio Engineering Convention, Paris, France, May 20-23, 2006.