

Short Communication

Analysis of the Effect of Microphone Parameters in Reciprocity Calibrations Using Taguchi Method

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Received: 07 November 2014 / **Accepted:** 26 May 2015 / **Published online:** 19 June 2015

Abstract

The paper presents parametric study investigating the relative influence of the various microphone parameters affecting the closed coupler reciprocity measurements while computing the sensitivity of reference standard microphones using the well-known *MP.EXE* program used by National Metrology Institutes of various countries. A design of experiments perspective using $L_9(3^4)$ orthogonal array and analysis of variance (*ANOVA*) method is presented for LS1P and LS2P microphones. The relative importance of microphone parameters on its sensitivity is evaluated in terms of percentage contribution using *ANOVA* methodology.

Keywords

ANOVA analysis – $L_9(3^4)$ orthogonal array – Reciprocity method – *MP.EXE* program