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## Comparison of different methods for the subjective sound quality evaluation of compression drivers

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### ABSTRACT

In this work an approach to the problem of sound quality evaluation of radiating systems is considered, applying a perceptual model. One of the objectives is to use the parameter proposed by Moore in [1] to test if it provides satisfactory results when it is applied to the quality evaluation of indirect radiation loudspeakers. Three compression drives have been used for these proposals. Recordings with different test signals at different input voltages have been done. Using this experimental base, an approach to the problem from different points of view is done: a) Taking in consideration classic sound quality parameters such as roughness, sharpness and tonality. c) Applying the parameter suggested by Moore obtained from the application of a perceptual model. Moreover, a psychoacoustic experiment has been made on a population of 25 people. The results, although preliminary and strongly dependant on the reference signal used to obtain  $R_{nonlin}$ , show a good correlation with the  $R_{nonlin}$  values.

### 1. INTRODUCTION

Nonlinear distortion of compression drives has been object of study in many occasions from different perspectives. Due to its mechanical complexity, the

multiple sources of nonlinearities that characterize this type of systems have been studied in order to establish each source contribution to the global nonlinear distortion. In addition, these devices work attached to a waveguide or horn that is itself a source of nonlinear distortion. Some authors consider that the distortion