

ACOUSTICS2008/2033
Investigation of Bonello criteria as a practical tool in small room
acoustics

Todd Welti

Harman International Industries, Inc., R&D Group, 8500 Balboa Blvd, Northridge, CA 91329, USA

The Bonello criteria are often used as an objective metric for assessing room dimensions with respect to modal response. In reality, the modal response is not simply a property of the room dimensions, but is quite dependent on source/receiver locations as well. The legitimacy of Bonello's criteria when used in rooms with typical subwoofer and seating configurations has not been well investigated. In this study, a room model is used to calculate room responses for a large number of combinations of room dimensions, subwoofer positions, and seating locations. The Bonello criteria are evaluated for each combination and compared to perceptually relevant criteria such as flatness and seat to seat consistency of the calculated acoustical responses.