

ACOUSTICS2008/2273
Recovery of distortion product otoacoustic emissions (DPOAE)
with high time-resolution from a moderate monaural-exposure to
2-kHz in human subjects

Miguel Angel Aranda De Toro, Rodrigo Ordoñez, Karen Reuter and Dorte Hammershøi
Acoustics, Aalborg University, Fredrik Bajers Vej 7 B5, 9220 Aalborg Ø, Denmark

The amplitude of distortion product otoacoustic emissions (DPOAE) decreases temporarily after exposure to a sound of moderate level. These changes show similarities to the changes observed in absolute hearing thresholds after similar sound exposures. This paper presents the experimental protocol to study how DPOAEs in human subjects are affected after a monaural exposure of ten minutes to a pure tone of 2 kHz. The experimental protocol allows to measure fine structures of the DPOAE with high time-resolution in a limited frequency range. Thus, the results give a detailed description of the DPOAE recovery process and can be used to develop a mathematical model of the recovery. This is the first approximation to study the recovery of more complex exposures. [Work supported by the Danish Research Council for Technology and Production.]