

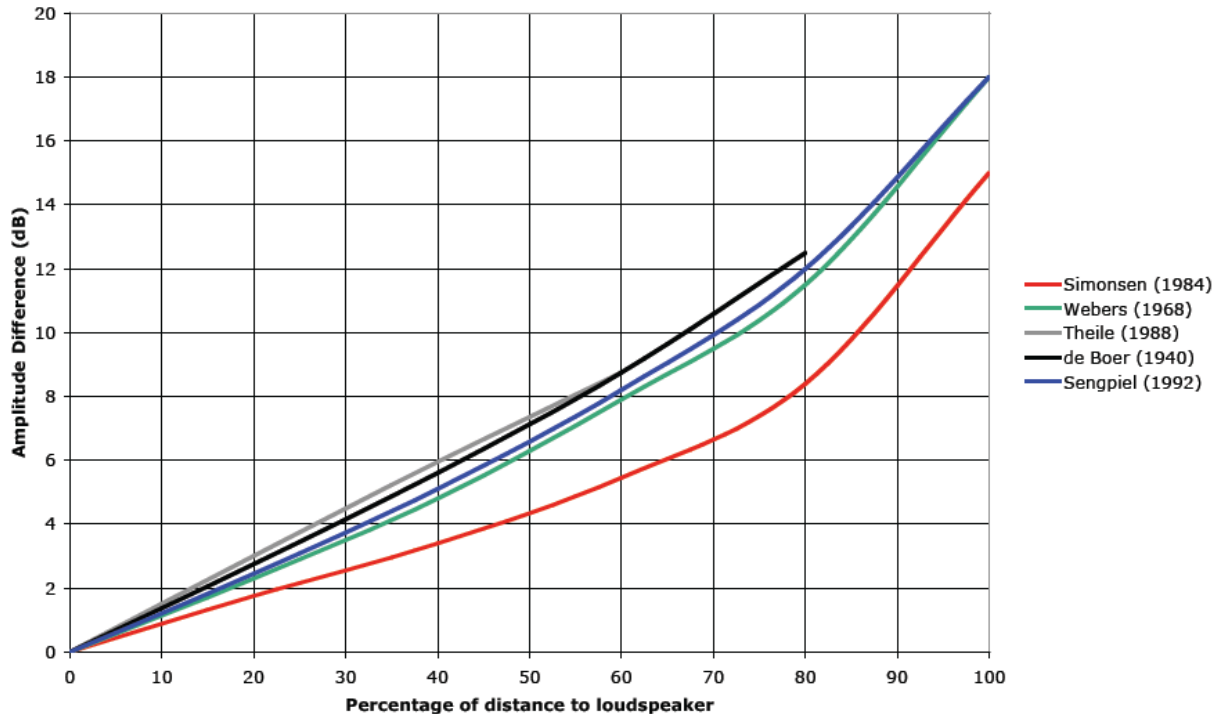


Direction of [Phantom sources](#) - Stereo loudspeaker signals - 1 Interchannel level differences and interchannel time differences Localization Curves

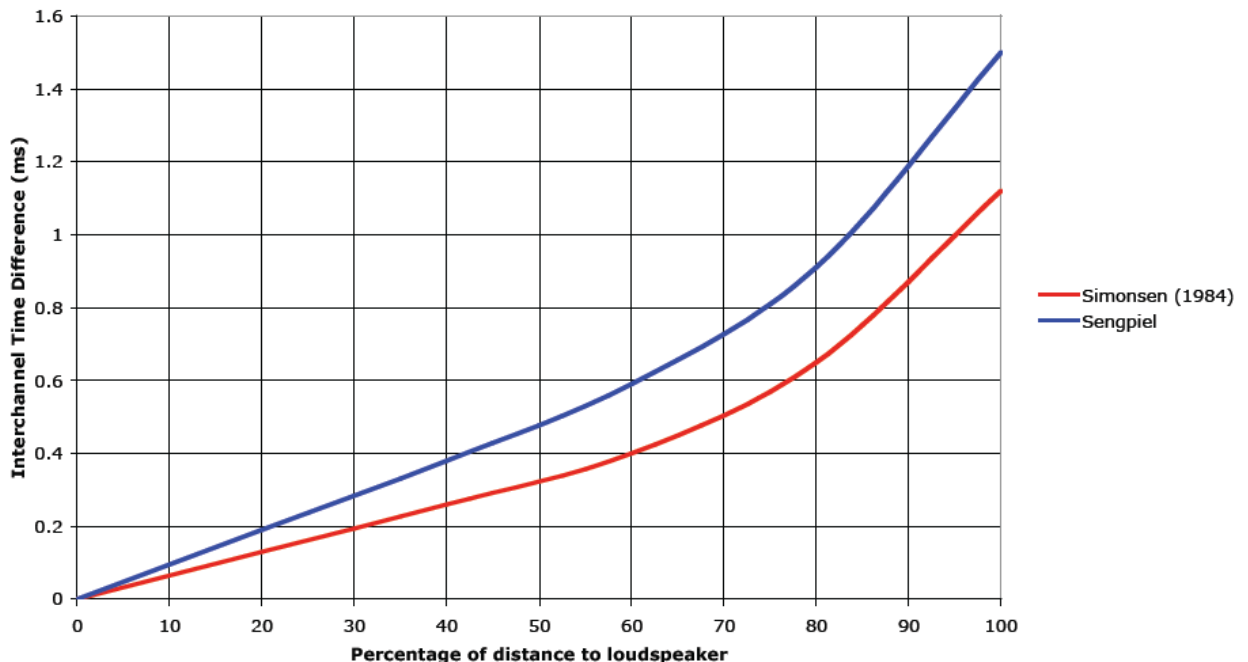
From: Geoff Martin: "Microphone Techniques for Stereo and Multichannel" – AES Tutorial 73 (AES 121st Convention)
<http://www.sengpielaudio.com/MartinAESTutorial73.pdf>

UdK Berlin
Sengpiel
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Tutorium

Interchannel Amplitude vs. Phantom Image Angle



Interchannel Time Difference vs. Phantom Image Angle



Red curve: Master's Thesis by Gert Simonsen at the Technical University of Denmark Lyngby (1984), also used by Michael Williams. Test signals: maracas and claves clicks. <http://www.sengpielaudio.com/Claves.htm>

Blue curve: Eberhard Sengpiel and tonmeister students (1992) used as test signals monaural human speech and a Beethoven string quartet in a usual control room with Bowers & Wilkens 801 matrix 3 loudspeakers.

<http://www.sengpielaudio.com/InterchannelLevelDifferencesAndInterchannelTimeDifferences2.pdf>

Sengpiel - Level Difference Curve: <http://www.sengpielaudio.com/HoerereignRichtungDL.pdf>

Sengpiel - Time Difference Curve: <http://www.sengpielaudio.com/HoerereignRichtungDt.pdf>