

Geometric Source Separation GSS401

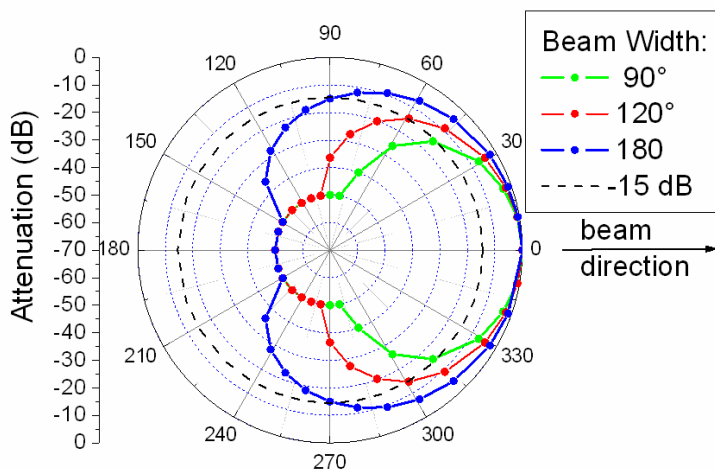
Technical Data of Software Package **GSS401**

Version 1.6 Date: 11.12.2006 Author: Dietmar Ruwisch

Ruwisch & Kollegen GmbH
Ostendstr. 25 12459 Berlin
Tel. +49 30 5321 0376
Fax +49 30 5321 0458

E-Mail: info@r-u-k.de
<http://www.r-u-k.de>

Geometric Source Separation (GSS401) is a very efficient beam forming algorithm



that is capable of separating a mixture of acoustic signals coming from different directions. Two microphones provide a stereo input signal that is processed to one or more output signals with arbitrary beam direction (mind the rotation symmetry regarding the microphone-axis). The parameter “beam

width” defines the size of the acceptance angle. In the figure above, a polar attenuation characteristic is sketched for beam widths 90°, 120°, and 180°. GSS distinguishes between signal components in the spectral domain and suppresses signal components in dependence of their input angle. Microphone distance is required to be at least 10 mm. In contrast to comparable source-separation or beam-forming algorithms, MIPS and memory requirements are very low, and a very stable system is achieved because the algorithms contains no adaptive components. The desired beam width and beam angle together with the maximum attenuation in dB can be set independently.

Technical Data (Software):

Area attenuation: up to 50 db
Sampling rate: 16 kHz
Internal signal delay: 30 ms
Req. Calculation Power: 9 MIPS
Req. Data Memory: 7 kByte
Req. Program Memory 3 kByte