

- **MUS-05-003-IP**

### **The role of psychoacoustics in digital audio coding schemes**

*Armin Kohlrausch*

*Philips Research Laboratories*

*Prof. Holstlaan 4, WY 82, 5656 AA Eindhoven, The Netherlands*

*Phone=+31-40-2743093*

*Fax=+31-40-2744675*

*email=armin.kohlrausch@philips.com*

Efficient digital audio coders try to optimize the trade-off between perceptual quality and bit rate. Since quality is strongly affected by the audibility of introduced artifacts like quantization errors, detailed knowledge about auditory masking plays an important role in the development of modern coding schemes. Masking describes the phenomenon that high-level signal parts can render other parts, like quantization errors, inaudible. Psychoacoustic knowledge also contributes to stereo coding. Here one exploits the insensitivity of the human hearing system to interaural phase differences at frequencies above a few kHz which allows an efficient coding of high-frequency signal parts