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”Auditory scene analysis” in hearing instruments

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The term ”auditory scene analysis” generally refers to a categorization of a given acoustic situation based on the acoustic signal only, where the results determine the subsequent processing of the acoustic signal within some auditory context. According to this definition, several approaches can be differentiated in the field of hearing instrument development. They differ in the computational complexity of the particular analysis methods applied, as well as in the subsequent action. Some of these approaches have been realized in commercially available hearing instruments, others lie still ahead. A simple example of the former category is noise reduction algorithms that address different classes of noises, examples of the latter are MPEG4-like virtual arrangements of media objects. In the presentation, different approaches will be discussed in terms of potential benefit and technical realization, as well as their limitations. For approaches already realized in commercially available hearing instruments, the expected benefit will be aligned with results from clinical studies.