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Ambisonics

Jan Skorupa

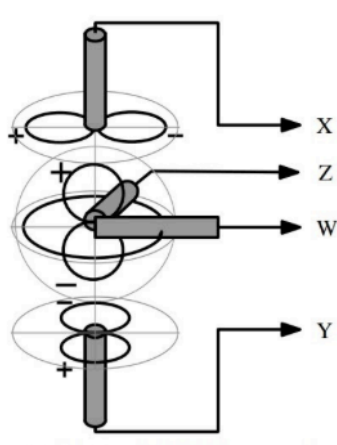
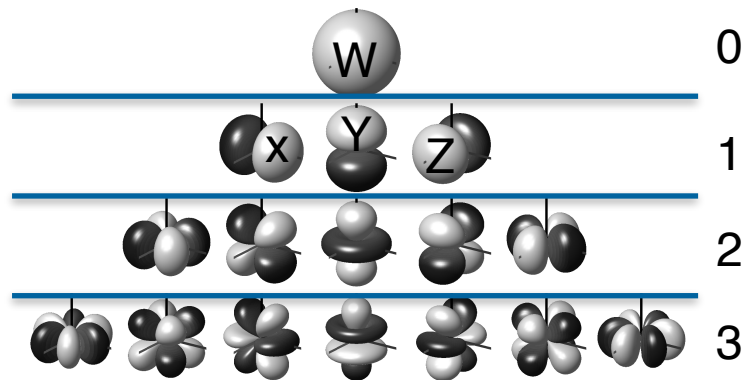
Poznan Supercomputing and
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Ambisonics

What is ambisonic sound

- speakers independent representation of a soundfield based on the spherical harmonics
- ambisonic formats (A-format, B-format)
- ambisonic sound resolution FOA and HOA
- B-format components, channel ordering and normalization



Ambisonics

New Media Laboratory - ambisonics

- spherical ambisonics monitoring system
 - Consist of twenty four loudspeakers
 - Speakers located on a three hexagonal planes
 - Workflow supports HOA
- recording setup
- postproduction workflow



Ambisonics

Ambisonics and R&D at PSNC

- creating experimental productions
 - Recording
 - Postproduction
 - VR and 360° video
 - Immersive streamings
- multichannel installation accuracy and virtual sources directivity tests
- tests and experiments with a different decoding approaches
- usage for a culture and an education purposes



Ambisonics

Ambisonic workflow - Experimental Productions

- for any ambisonics productions there are several recording approaches
 - soundfield microphones
 - encoding mono and stereo sources
 - microphone matrixes
- advanced methods of imitating acoustic properties (reverberation, sound reflections)



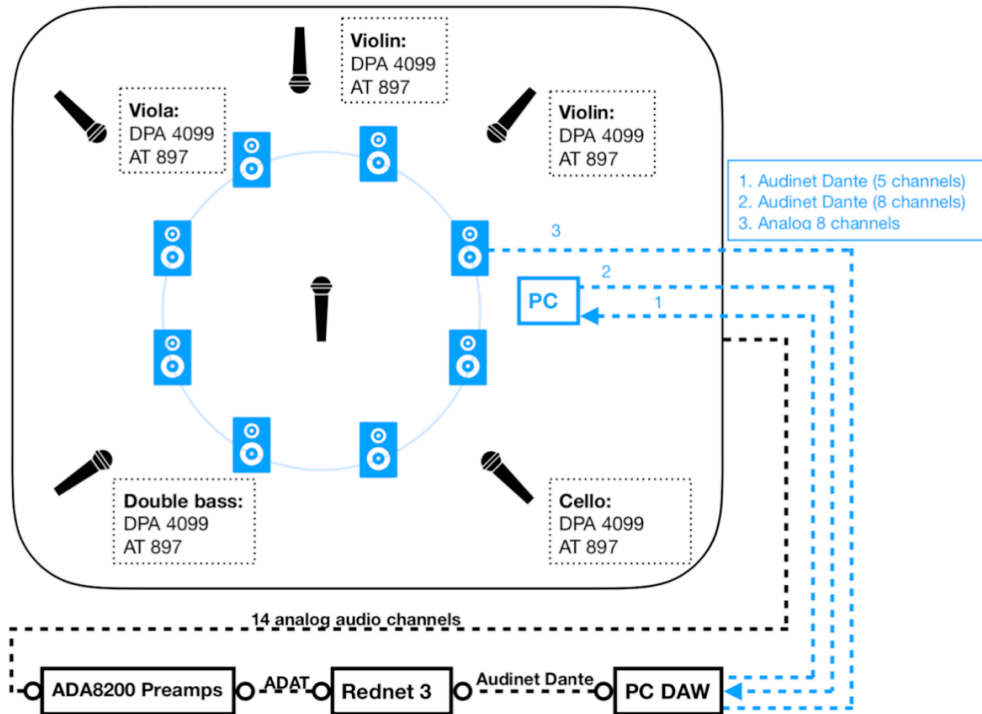
Ambisonics

Ambisonic workflow - experimental productions



Ambisonics

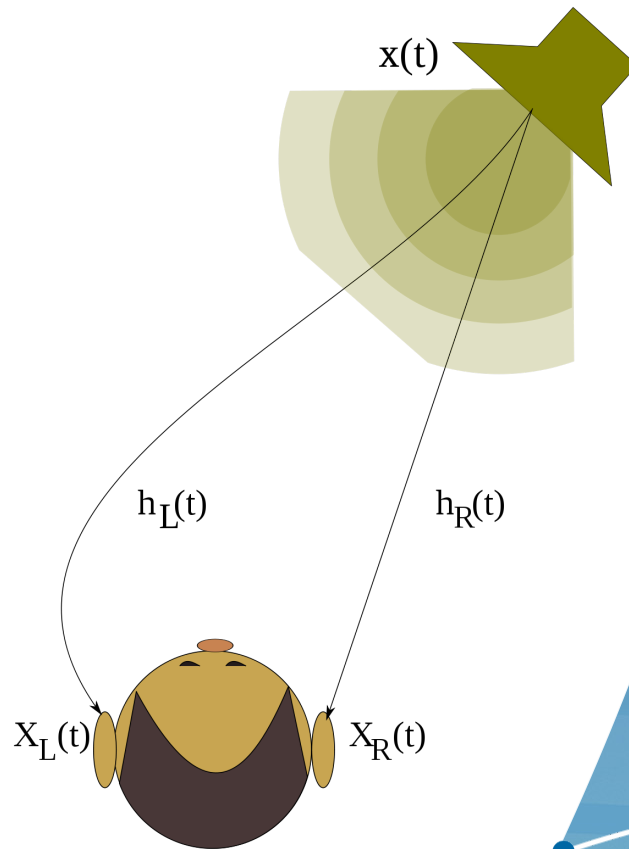
Ambisonic workflow - experimental recordings



Ambisonics

Ambisonics and VR

- binaural decoders
 - HRTF (head related transfer function)
- distribution (YT, FB, Unreal)



Immersify

- Horizon 2020 R&D project
- Experimental productions in area of new generation immersive media
- High Resolution Streamings
- Guidelines and reports: <https://immersify.eu>



MARCHÉ DU FILM
FESTIVAL DE CANNES



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