

# “Noise is a sound out of place”

by David Hendy

# Sound Vision

Make the ~~World~~ **> 1.000.000** Sound Right

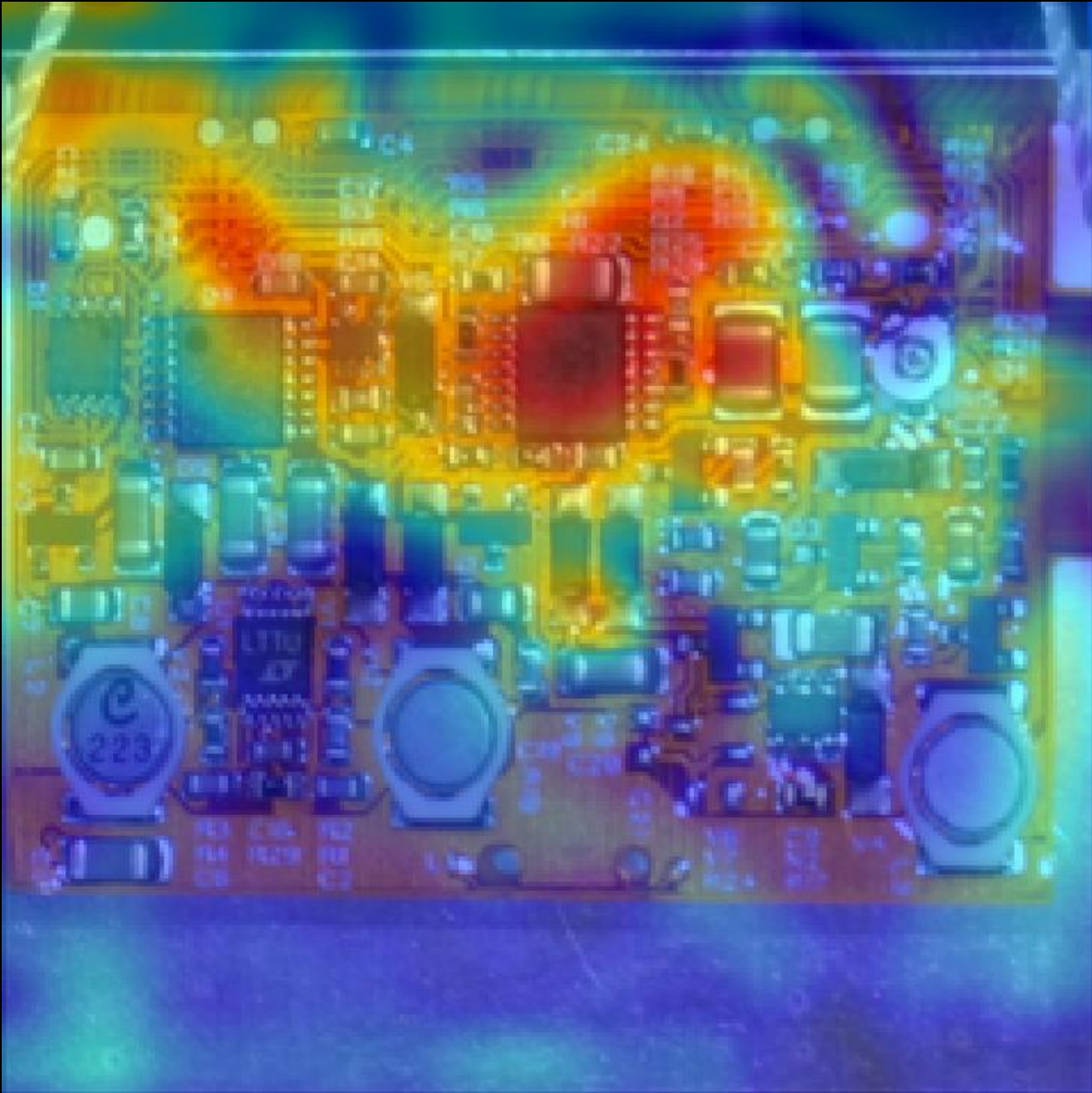


**Sorama**

Sonos Orama

**Sound Vision**

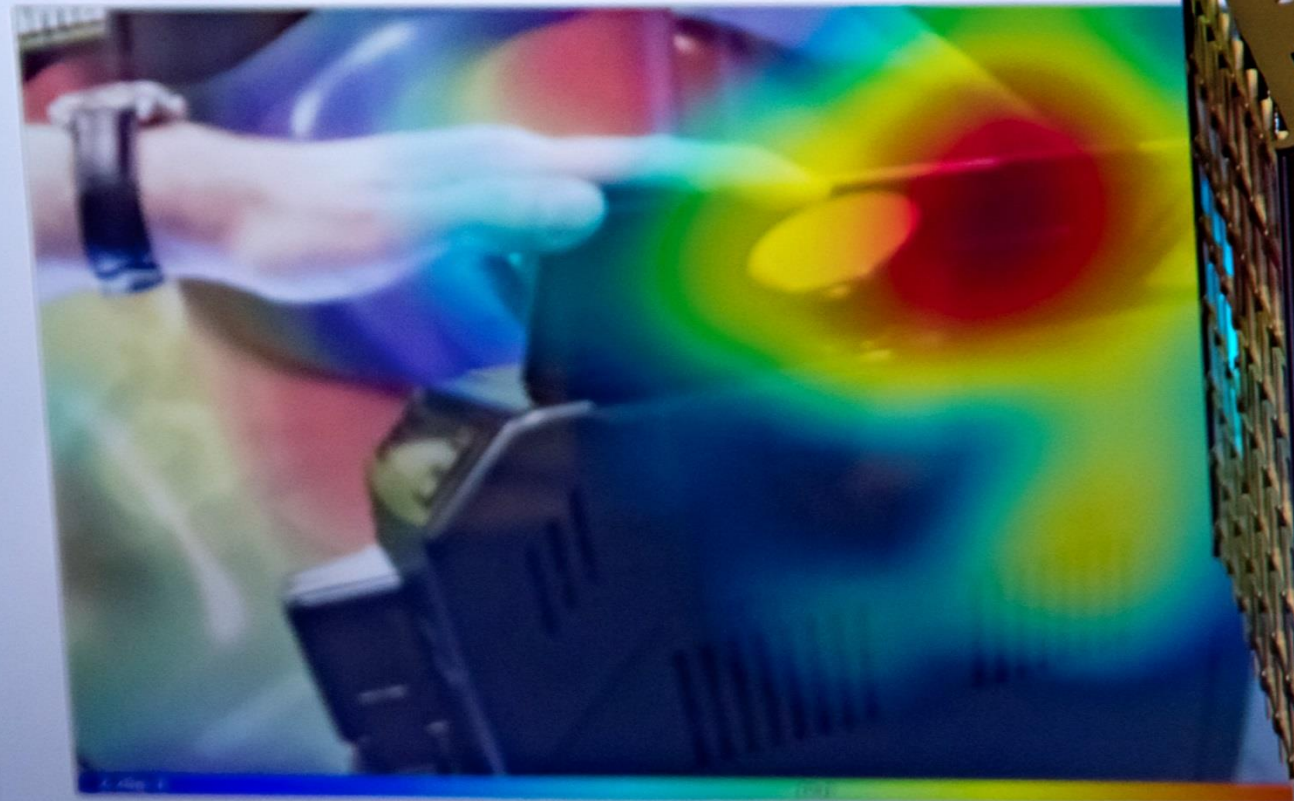
13.000 Hz



50.000x  
delayed

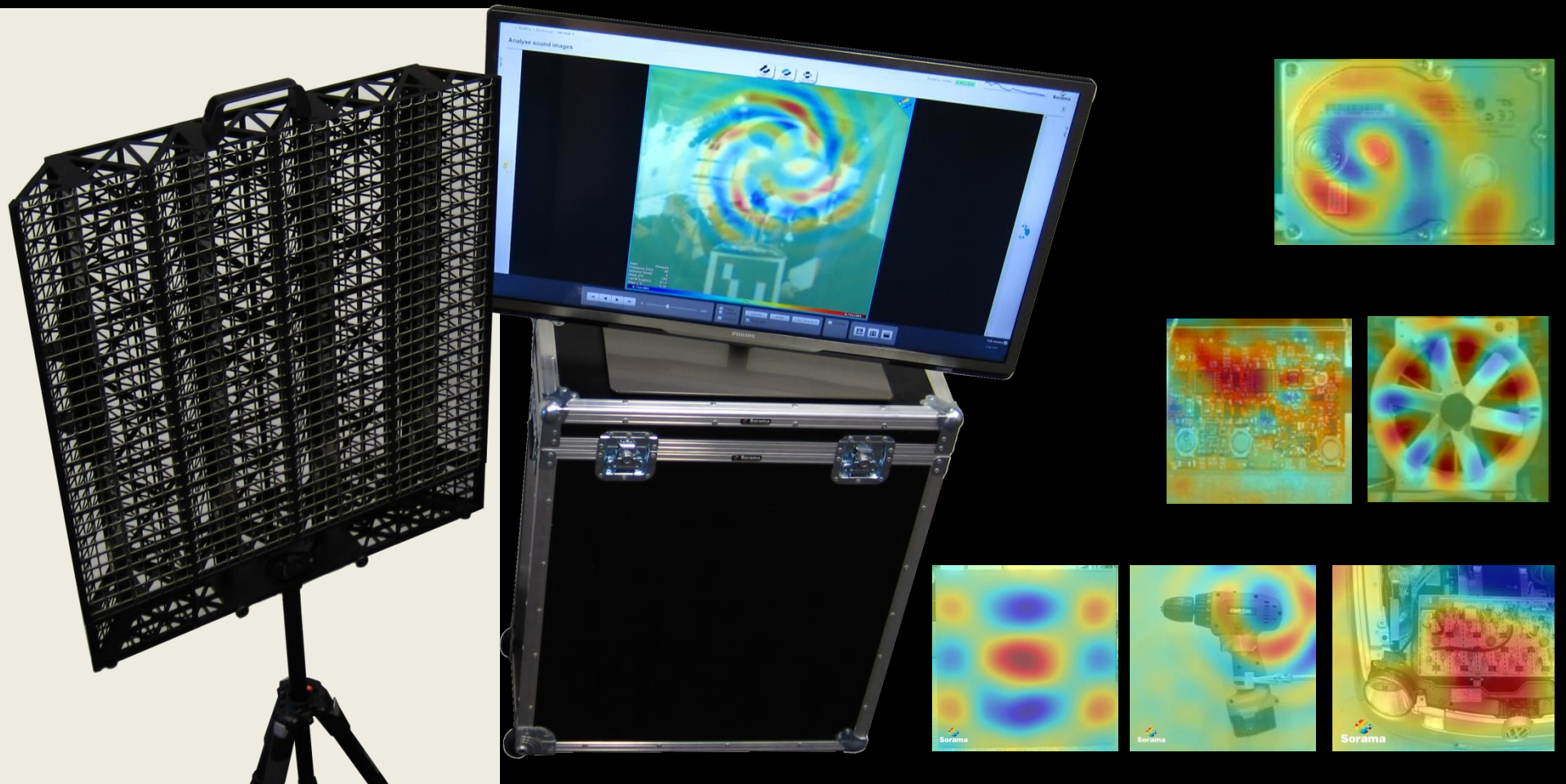
(Source: Philips)

# Beamforming

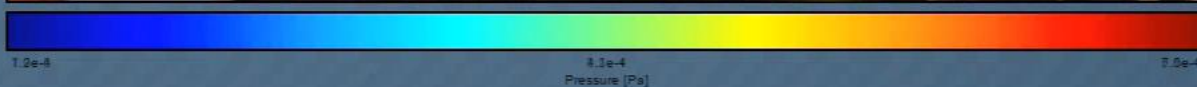


Navigation and control panel at the bottom of the screen, including a small circular heatmap icon, several buttons, and a dropdown menu.

# Sound Camera



# Far Field



Settings

Opacity  70%

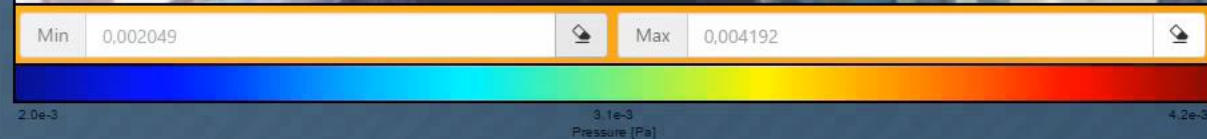
Threshold  72%

Distance  10m

Colormap

# Before

# Far Field



Settings

Opacity  60%

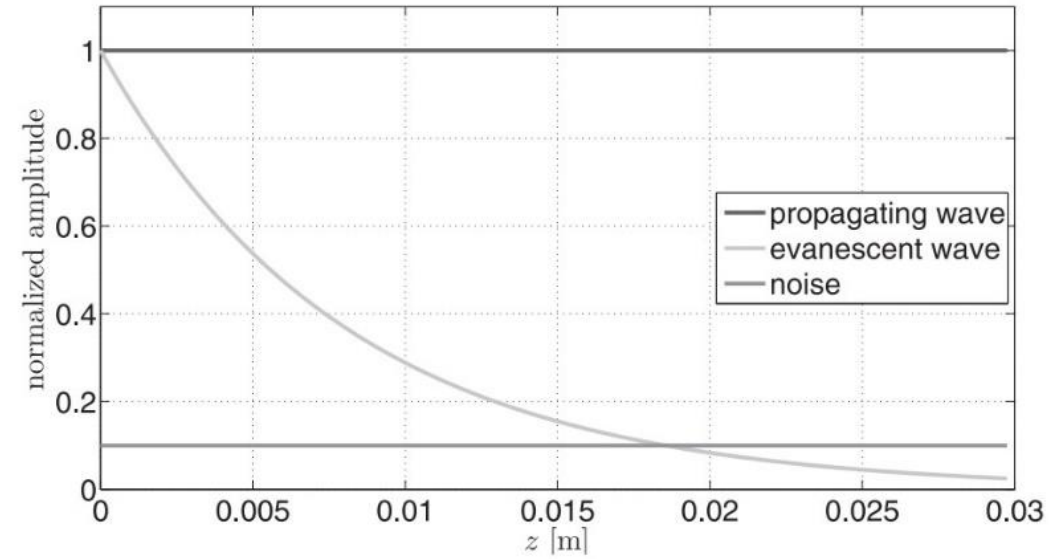
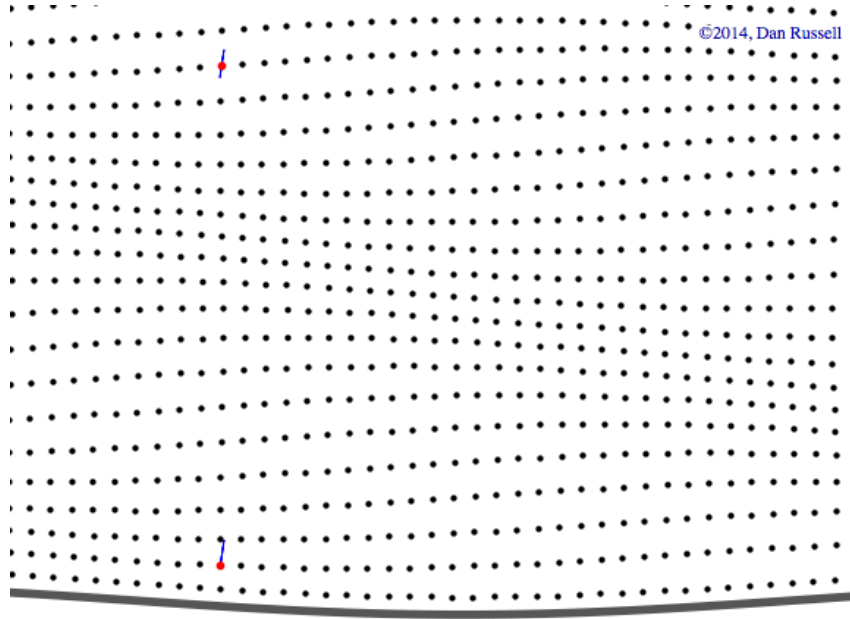
Threshold  50%

Distance  10m

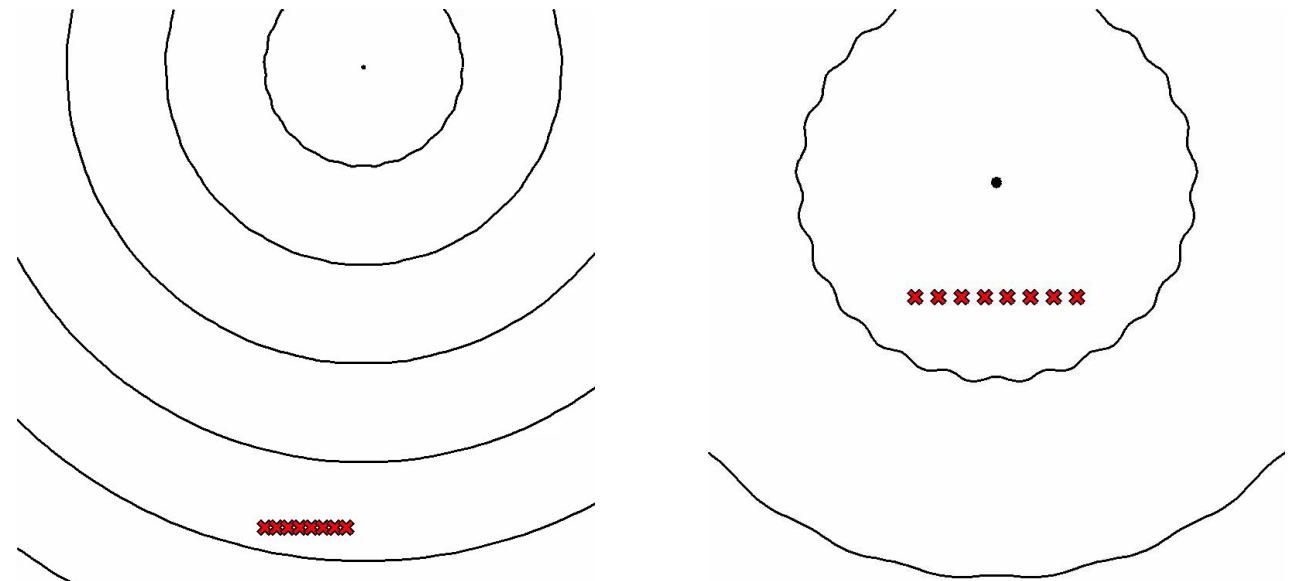
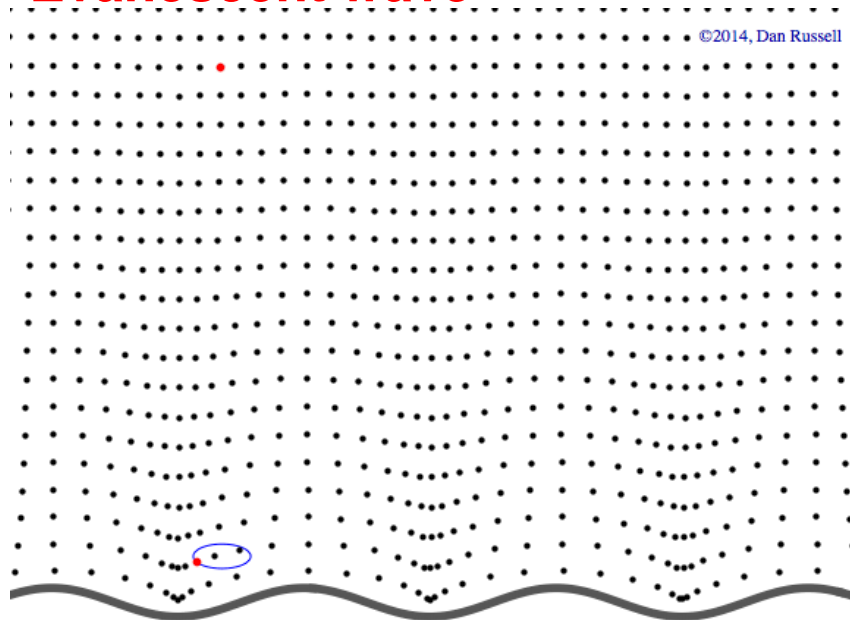
Colormap

# After

# Propagating wave

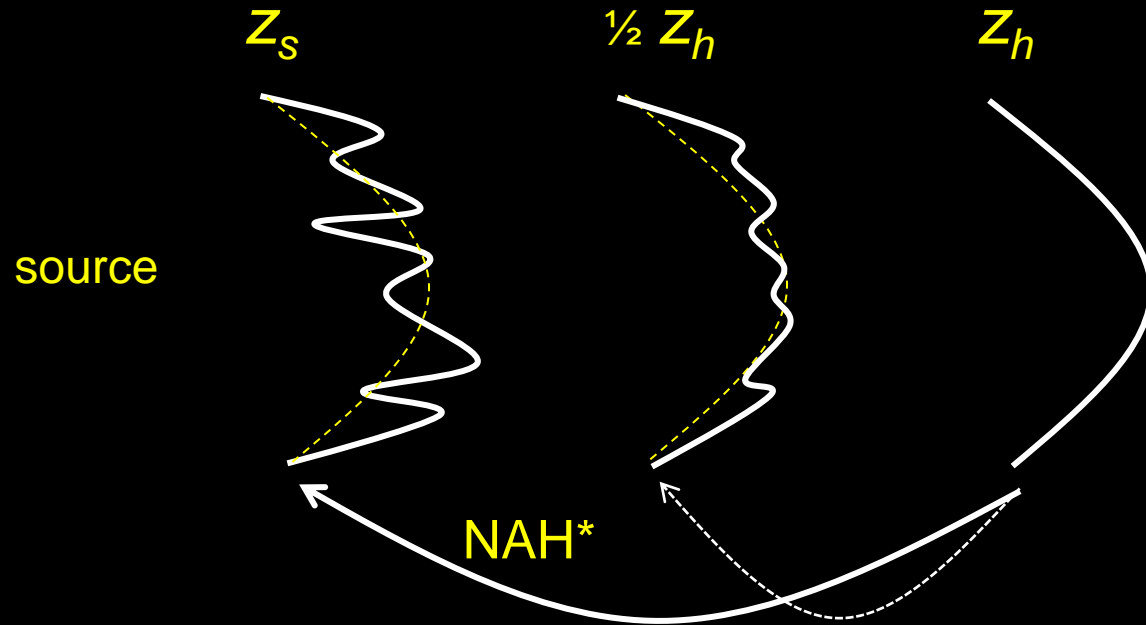
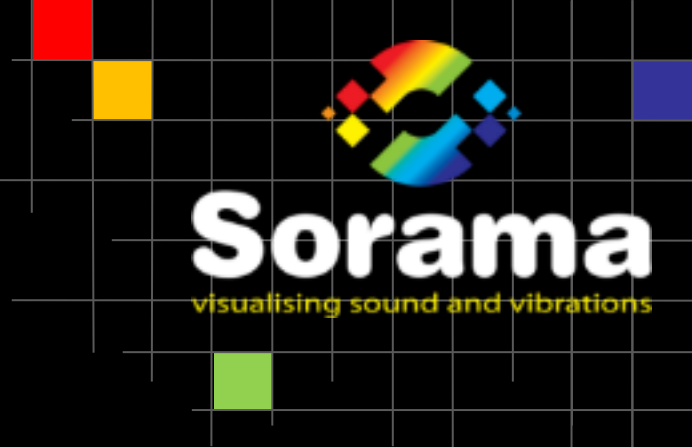


# Evanescent wave

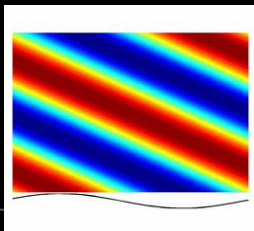




# Physics behind Sound Imaging



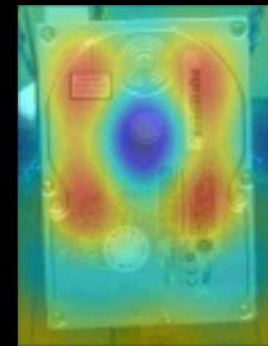
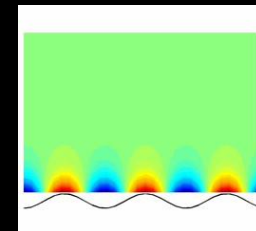
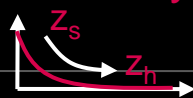
Near-field: propagating & evanescent waves



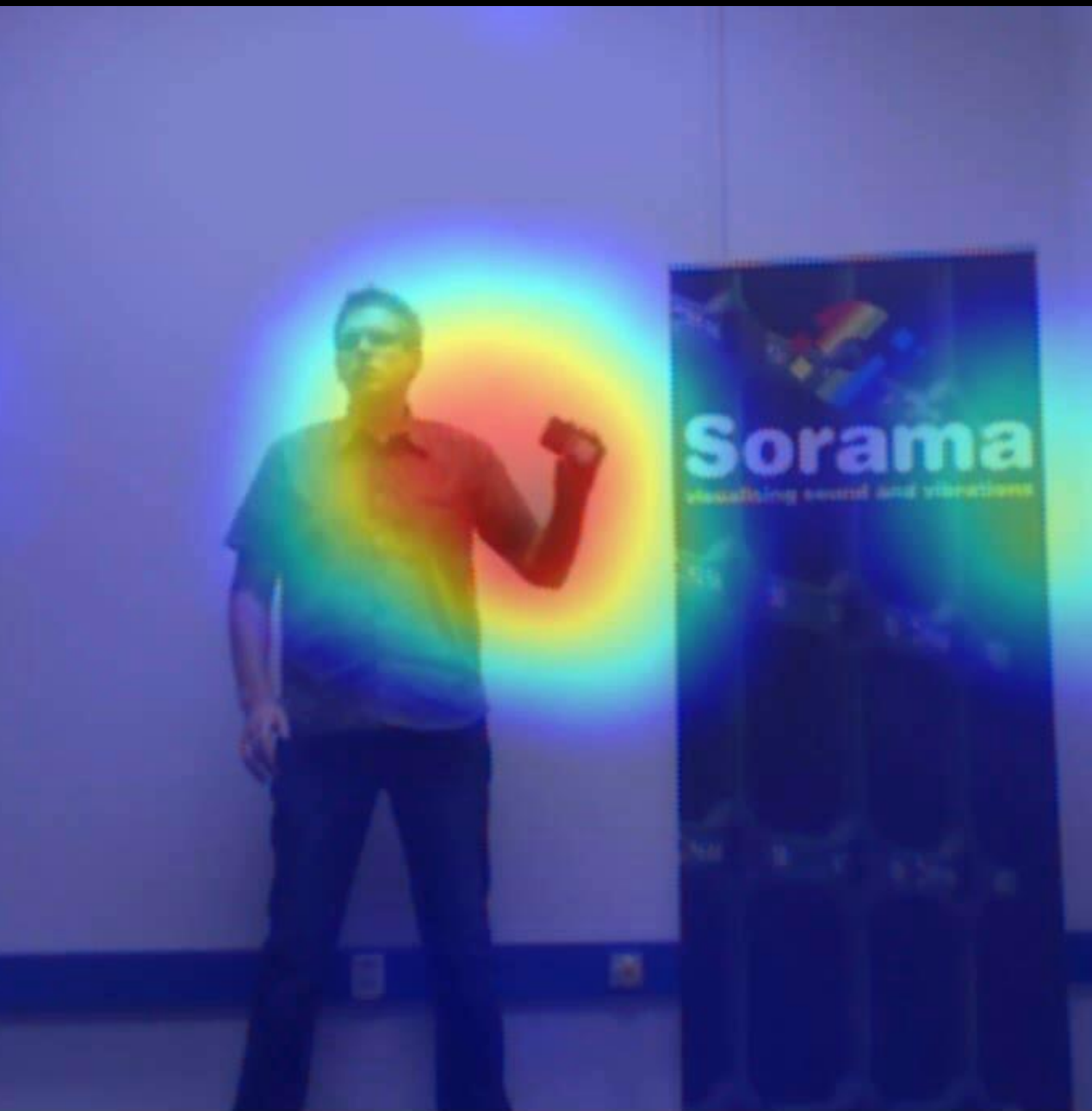
phase  
shift



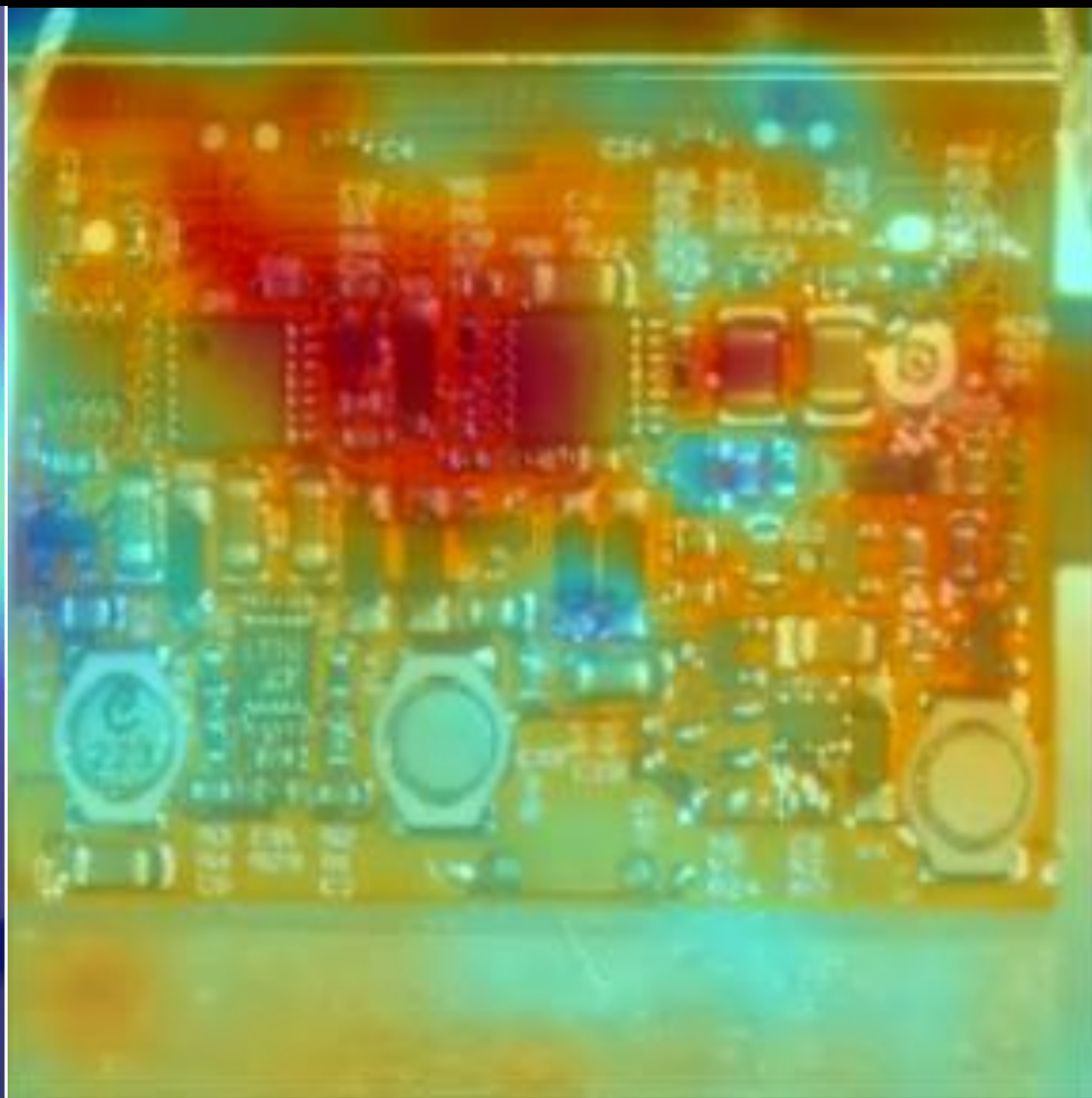
exponential  
decay



\*NAH = Near-field Acoustic Holography

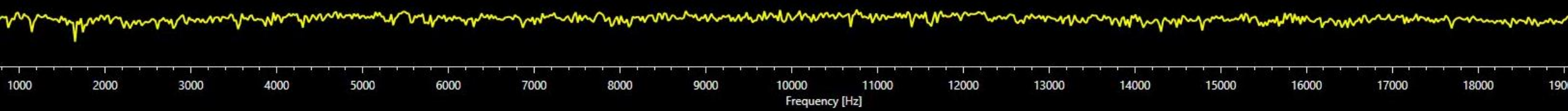
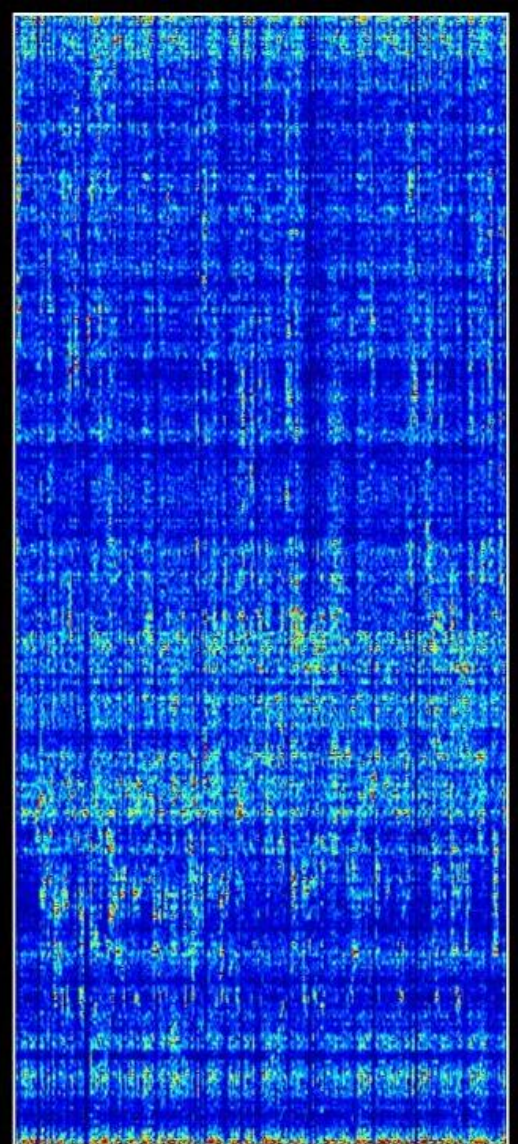


Far field localization



Near-field observation and insight

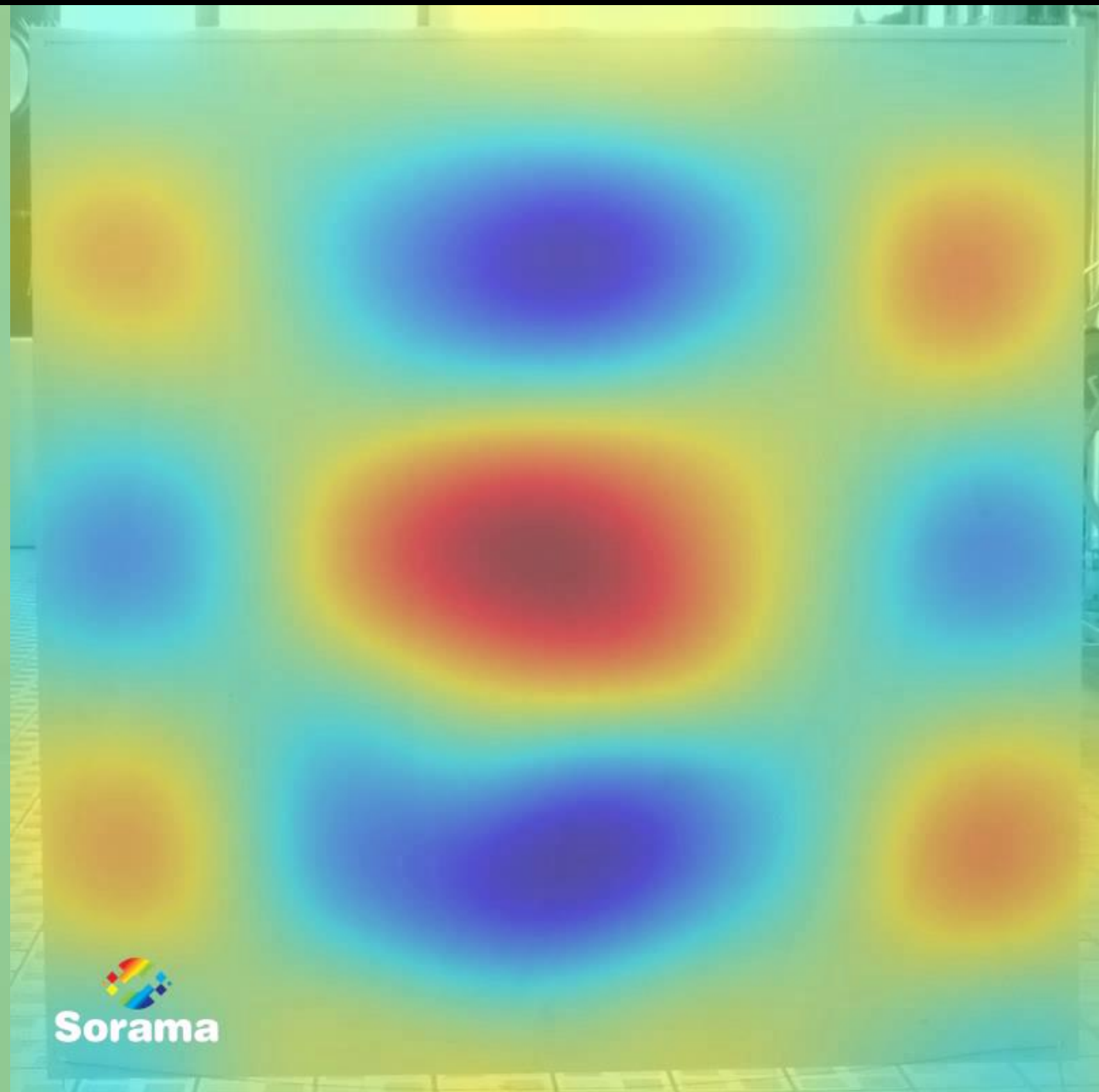
(Source: Philips)



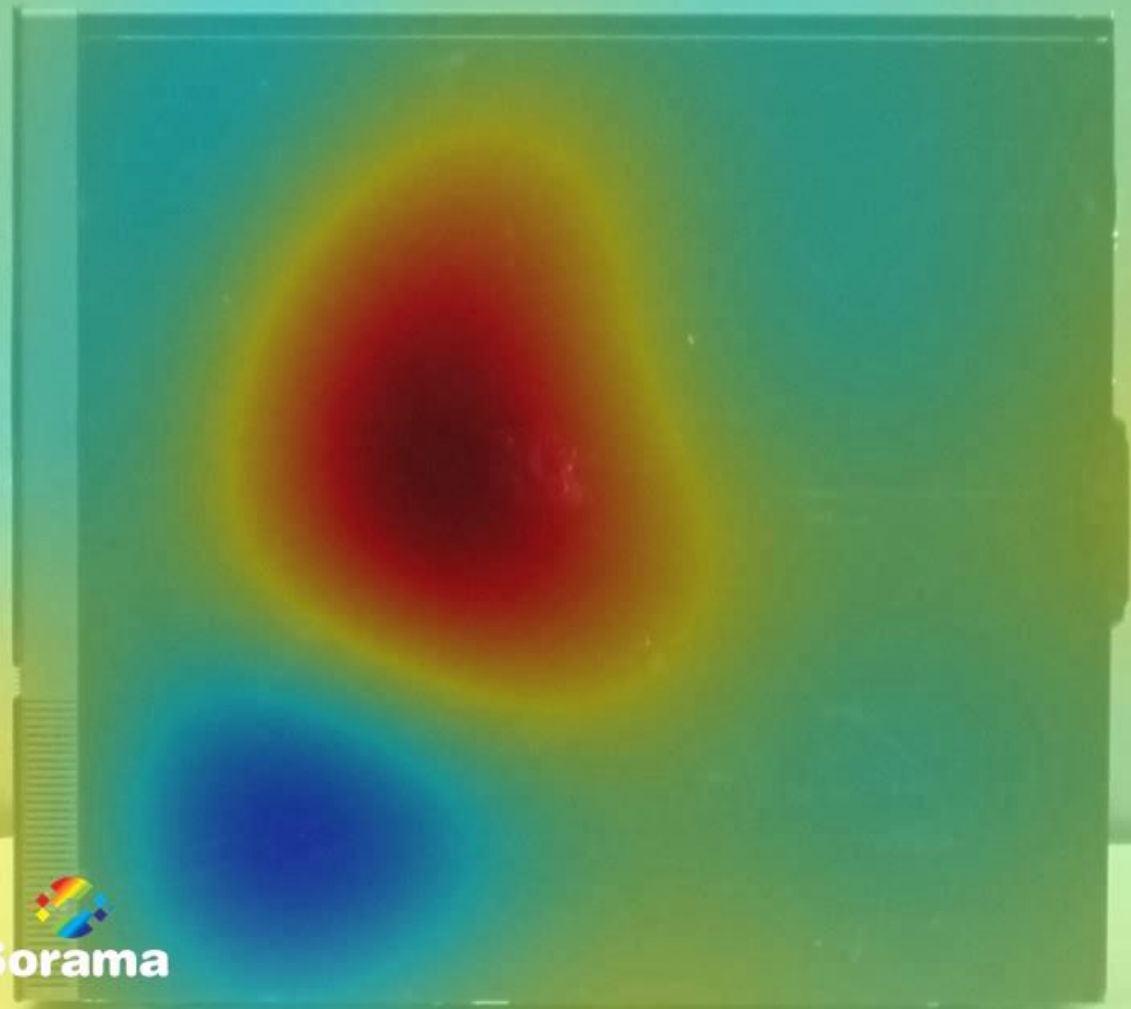




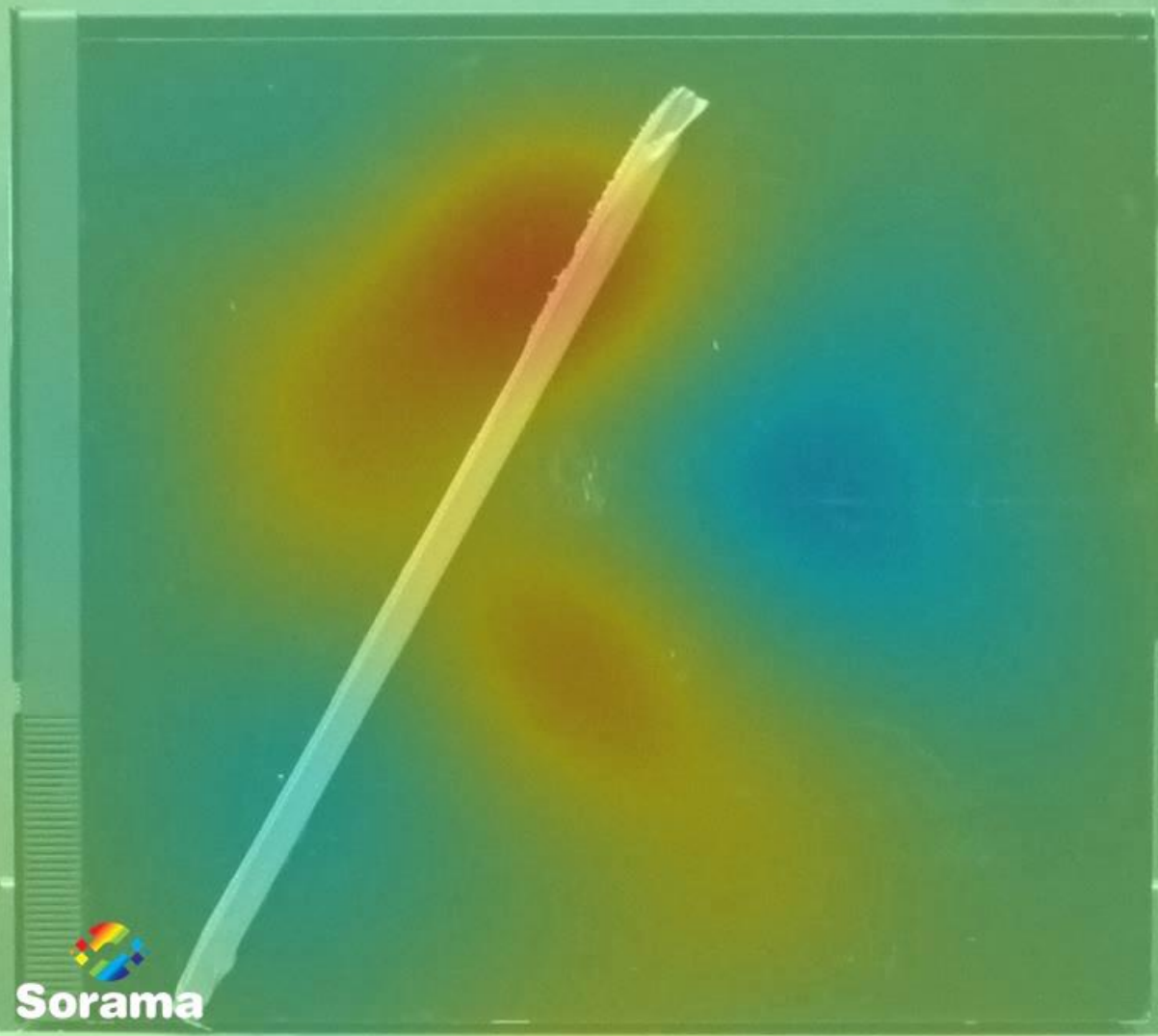
Tuning fork in open air



Tuning fork on wooden plank



 Sorama

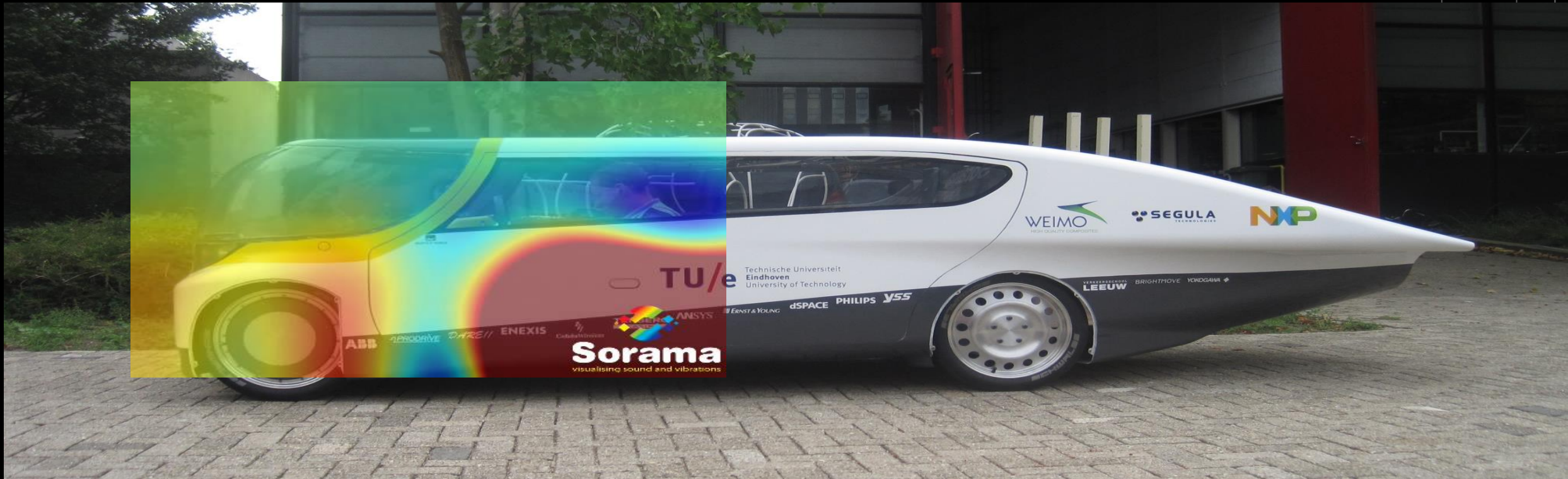


 Sorama

# Solar Team Eindhoven Sorama Sound Imaging



72 Hz



# Solar Team Eindhoven Sorama Sound Imaging



521 Hz





# Solar Team Eindhoven Sorama Sound Imaging



4044 Hz



# Solar Team Eindhoven Sorama Sound Imaging

19991 Hz



# Analyse



Exit

Reset view



Type:	PressureProjection
Frequency [Hz]:	19991
Phase [°]:	150
CutOff [rad/m]:	157.1
Slope [-]:	0.00
Selected layer distance [mm]:	0.00







**Make the World Sound Right**