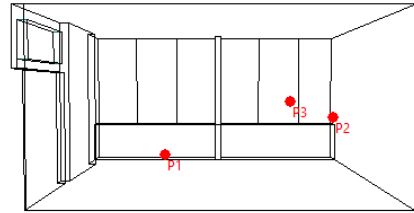


Measurement and simulation data for source power estimation

The provided OdeonZipArchive contains an ODEON model of a laboratory room, in which the source power estimator was tested. The archive also includes measured SPL data, which is needed to estimate the source power of the sources.

Room

The test room is a laboratory room from the Technical University of Denmark. The material properties in the model were adjusted in ODEON using impulse response measurements in the actual room and the genetic material optimizer.



Sources

Three sources are present in the room:

- S1: an aerodynamic reference source from Brüel & Kjær, type 4204.
- S2: an Odeon Omni loudspeaker playing a stationary pink noise signal.
- S3: an Odeon Omni playing another stationary noise with a different spectrum.

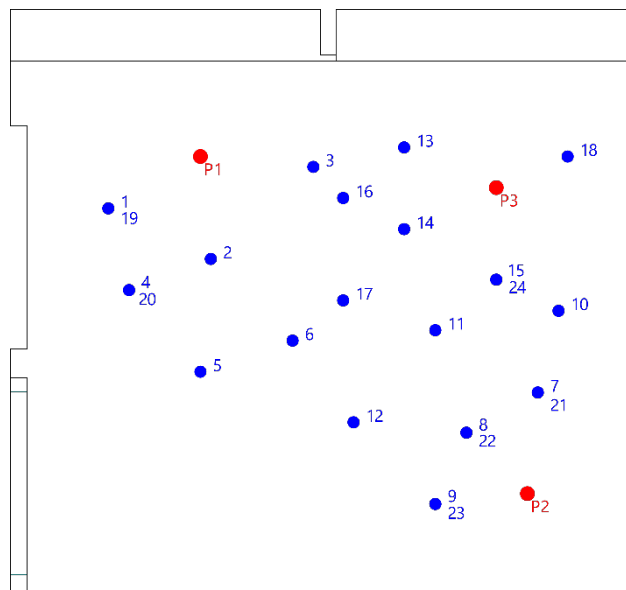


S2 and S3 use the measured directivity of Odeon Omni. The exact directivity of S1 is unknown, so it is assumed to be fully omnidirectional in the ODEON model.

Receivers

The SPL was measured at different distances of each source. The receiver positions are included in the ODEON model. During the actual measurements, only 3 sound level meters were available so the SPLs were measured three by three.

Note: receivers 19 to 24 are in the same location as previously defined receivers, but at different heights. This occurred because the SPLs were measured at different times, possibly with different SPL meters.



Jobs – tested scenarios

Different scenarios were tested in which 1 source, 2 sources or 3 sources were active at the same time. The table below summarizes the jobs as defined in ODEON, which sources were active in each job, and which receivers were measured for each job.

Job number	1	2	3	4	5	6	7
Sources							
1 B&K source	■			■	■		■
2 Odeon Omni		■		■		■	■
3 Odeon Omni with EQ			■		■	■	■
Receivers							
R1	■			■	■		■
R2	■			■	■		■
R3	■			■	■		■
R4	■			■	■		■
R5	■			■	■		■
R6	■			■	■		■
R7		■		■		■	■
R8		■	■			■	■
R9		■				■	■
R10		■		■		■	■
R11		■		■		■	■
R12		■		■		■	■
R13			■		■	■	■
R14		■			■	■	■
R15			■	■	■	■	■
R16			■		■	■	■
R17			■		■	■	■
R18			■		■	■	■
R19 (R1 tilted)		■					
R20 (R4 tilted)			■			■	
R21 (R7 tilted)					■		
R22 (R8 tilted)	■			■			
R23 (R9 horizontal)				■			
R24 (R15 horizontal)	■						

The gray rows correspond to already existing receivers at different heights.

Measurement data

The measured SPL data can be found in the measurement files after extracting the OdeonZipArchive. These files have the extension “**.MeasuredExNN**”, where NN corresponds to the job number.

You can “hide” some of the measurements by editing the corresponding measurement file, and deleting the unwanted receivers. If you need the full measurement data set again, you can find the original files on the [website](#).

Below are the cases studied in the [Internoise paper](#):

- **Source 1 active (Job 1):**
 - 1 receiver: R1
 - 2 receivers: R1, R2
 - 3 receivers: R1, R2, R3
 - 6 receivers: R1, R2, R3, R4, R5, R6
- **Source 1 and Source 2 active (Job 4):**
 - 6 receivers close to S1: R1, R2, R3, R4, R5, R6
 - 6 receivers close to S2: R7, R10, R11, R12, R22, R23
 - 3 receivers close to each source: R1, R2, R3, R7, R22, R23
 - 6 receivers close to each source: R1, R2, R3, R4, R5, R6, R7, R10, R11, R12, R22, R23
- **Source 1, Source 2 and Source 3 active (Job 7):**
 - 3 receivers per source: R1, R2, R3, R7, R8, R9, R13, R14, R15
 - 6 receivers per source: R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18

The [web article](#) is a reduced version of the paper dataset:

- **S1 active (Job 1):** R1, R2, R3
- **S1 and S2 active (Job 4):** R1, R2, R3, R7, R22, R23
- **S1, S2 and S3 active (Job 7):** R1, R2, R3, R7, R8, R9, R13, R14, R15