

Vislab

Room impulse response (RIR) data were recorded defining the acoustic transfer function from 30 loudspeakers in a circular array to 48 microphones disposed in a double concentric circular array. Each RIR is 65536 samples at 48 kHz. The dataset was captured in the University of Surrey's CVSSP Vislab in July 2015, and includes metadata describing all microphone and loudspeaker positions, the room size, plus some photos. The dataset comprises one file in the SOFA format and a .zip containing .wav, referring to the sound-field microphone recordings for each loudspeaker. Metadata are encoded directly in to the SOFA files, and an overview of the dataset is provided below.

Considering the centre of the Surrey Sound Sphere as the centre of the Cartesian coordinate system (i.e. it also corresponds to the Soundfield microphone position):

- The microphones array is oriented to have the microphone labelled as 1 and 25 in front to the loudspeaker labelled as 4. The other microphones are labelled *clockwise*. They all have the same z-axis value equal to 0.
- The first 10 loudspeakers are lying on the points of coordinate:

	Ls1	Ls2	Ls3	Ls4	Ls5	Ls6	Ls7	Ls8	Ls9	Ls10
X(m)	0.00	0.84	1.45	1.68	-0.57	-1.19	1.26	-1.03	1.45	0.84
Y(m)	-1.68	-1.45	-0.84	0.00	-1.58	-1.19	-0.73	-1.03	0.84	1.45
Z(m)	0.00	0.00	0.00	0.00	0.00	0.00	-0.84	-0.84	0.00	0.00

- The 10 loudspeakers labelled between 11 and 20 are have their coordinates:

	Ls11	Ls12	Ls13	Ls14	Ls15	Ls16	Ls17	Ls18	Ls19	Ls20
X(m)	0.00	-0.57	-1.19	-1.68	1.26	-1.03	1.45	1.45	1.26	1.03
Y(m)	1.68	1.58	1.19	0.00	0.73	1.03	0.00	0.00	-0.73	-1.03
Z(m)	0.00	0.00	0.00	0.00	-0.84	-0.84	-0.84	0.84	0.84	0.84

- The last 10 loudspeakers are placed at:

	Ls21	Ls22	Ls23	Ls24	Ls25	Ls26	Ls27	Ls28	Ls29	Ls30
X(m)	0.00	-0.50	-1.03	0.00	1.26	1.03	0.00	-0.50	-1.03	-1.45
Y(m)	-1.45	-1.37	-1.03	0.00	0.73	1.03	1.45	1.37	1.03	0.00
Z(m)	0.84	0.84	0.84	1.68	0.84	0.84	0.84	0.84	0.84	0.84

- The floor is at $z=-1.62\text{m}$, the ceiling at $z=2.36\text{m}$. The four walls are positioned at: $y=3.78\text{m}$, $y=-3.95\text{m}$, $x=3.80\text{m}$, and $x=-4.19\text{m}$.



Figure 1 The Surrey Sound Sphere in the Vislab.