<table>
<thead>
<tr>
<th>V(m³)</th>
<th>RT</th>
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(a) Stretched pulse signal driving the loudspeaker system

(b) Impulse response measured in an anechoic room (after deconvolution)

(c) Energy spectrum characteristic of the impulse shown in (b)
In the field of acoustics, various measures are used to evaluate the efficiency and performance of different systems. One such measure is the reverberation decay, which quantifies how quickly the sound pressure levels drop after a disturbance has ceased.

The reverberation decay is often measured in logarithmic scales, such as in the figure where the data is plotted on a logarithmic scale. The data points are shown as black dots with error bars indicating the spread of data.

The equation for calculating the reverberation decay is given by:

$$L_v = L_{w0} + 10 \log \left( \frac{1}{4\pi r^2} + \frac{A}{r^2} \right)$$

where:

- $L_v$ is the reverberation decay in decibels
- $L_{w0}$ is the sound pressure level at a reference distance
- $r$ is the radius of the source or the medium
- $A$ is the area of the source or the medium

This equation takes into account the distance ($r$) and the area ($A$) of the source, which are critical factors in determining the decay rate of the sound pressure.

The plots in the figure show the impulse response and the reverberation decay for different conditions, each represented by different symbols. The data indicates how the sound pressure levels change over time for different parameters, highlighting the importance of understanding the acoustic properties of a given system for effective design and application.
(a) Virtual image source distributions.  
(b) Directivity patterns.
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