

PRESENTS

Chapter 5 The effect of reflected sound back towards a symphony orchestra

from the PhD thesis by Jens Jørgen Dammerud:

Stage Acoustics for Symphony Orchestras in Concert Halls

Click-and-choose: ([Full resolution 5.5MB](#)) or ([Reduced size 96dpi 2.7MB](#))

Introduction to Chapter 5:

The results from [Chapter 3](#) suggest that good acoustic conditions are identified by the players as being able to hear all other players clearly, well balance with sound from one's own instrument. Also, hearing the acoustic response from the main auditorium appears important for the players. In the same study, judgements of overall acoustic impression among the players were compared to objective measures of 12 purpose-built concert halls the players were visiting on a regular basis as well as other halls (excluding home venues). The results indicated that the most popular halls have a stage enclosure that generally can be described as narrow and high. On the contrary, the halls with a wide and low stage enclosure were among the least preferred halls.

This chapter is organised into three main parts: the first part discusses the need for reflected sound on stage and how the level and delay of early reflections differ between a ceiling and side wall reflections the different perceptual effects studied. The second part relates the levels and delays of reflections from the stage enclosure to the perceptual effects included for this study. The third part discusses the relevance of scattering properties of the stage enclosure, how the results from part two agree with acoustic conditions for the audience, and how the architectural stage measures proposed in [Chapter 3](#) may correspond with perceptual effects studied. [Go to thesis](#)

- [3. Musicians' impressions of acoustic conditions](#)
- [4. Sound propagation within a symphony orchestra](#)
- [5. The effect of reflected sound back towards a symphony orchestra](#)
- [6. Computer modelling of stage enclosures including a full symphony orchestra](#)
- [7. Acoustic measures for assessing acoustic conditions on stage](#)
- [8. Impressions of eight performance spaces visited regularly](#)
- [9. Overall discussion and conclusions](#)

akuTEK navigation:

[Home](#)
[Papers](#)
[Title Index](#)
[Stage Acoustics](#)
[Concert Hall Acoustics](#)