

## ACOUSTICS2008/3070

### On the interaction between double basses and the stage floor

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Double bassists unanimously claim the importance of a compliant stage floor for producing a warm and nuanced orchestra sound. However, in the limited number of reports studying the stage floor's contribution to radiated sound no clear conclusion has been reached. The present study, based on measurements of three concert halls and three double basses, points at some measurable features that should be considered when trying to settle the question: (1) With a compliant floor the velocity transfer between the bass bridge and floor is often higher than 0 dB in the low-frequency range. In these cases the bass largely acts as a mass (viewed from the end pin) while the floor acts like a spring. (2) The floor properties affect the bridge mobility in the low-frequency range. (3) Below the Helmholtz resonance, around 60 Hz, the radiation of the bass corpus falls about 40 dB within one octave while the ratio between the input power at the bridge and the power transferred to the floor via the end pin has been observed to boost from 3 to 40% in the same range. (4) The effect of a compliant floor may be more pronounced for the player than for the audience.