

## 2020 JSAE Annual Congress (Autumn)

21. – 23. October 2020

**Place:**

Kitakyushu International Conference Center Japan (**online**)

**Title:**

Target Setting of Vehicle Interior Sound Based on Test Drives and Interviews

**Authors:**

Philipp Sellerbeck <sup>1)</sup> Stefan Hank <sup>1)</sup> Kenji Torii <sup>2)</sup>

*1) HEAD acoustics GmbH, Ebertstraße 30a, 52134 Herzogenrath, Germany*

*2) Honda R&D Co., Ltd. Automobile R&D Center, 4630 Shimotakanezawa, Haga-machi, Haga-gun, Tochigi, 321-3393 Japan*

**Abstract:**

This paper introduces an explorative approach to define targets for the vehicle interior sound development based on the user experience of test drivers. Therefore, 16 people drove two competitive vehicles in normal public traffic while interior noise and driving data were recorded. The drivers stated and rated freely their impressions regarding the acoustics and the vibration of both cars. We clustered all comments, linked them to specific driving conditions and identified the most customer-relevant conditions. For these conditions, we performed representative measurements and used psychoacoustic analyses to quantify the engine sound quality and to set targets for the vehicle interior sound.

**KEY WORDS:** vibration, noise and ride comfort, acceleration noise, sound quality evaluation, user experience, psychoacoustics, target setting (B3)