

Henri A. Siller, Stefan Funke, and Jonas König. "Acoustic source localisation on a model engine jet with different nozzle configurations and wing installation", 22nd AIAA/CEAS Aeroacoustics Conference, Aeroacoustics Conferences, (AIAA 2016-2897)
<https://doi.org/10.2514/6.2016-2897>



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[22nd AIAA/CEAS Aeroacoustics Conference](#) Lyon, France

Acoustic source localization on a model engine jet with different nozzle configurations and wing installation

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Jet-noise measurements have been performed in a large anechoic facility with a scaled engine model and a linear microphone array. A large number of configurations with dual stream hot and cold jets of different flow speeds, with and without flight stream simulation, and with and without wing installation have been investigated. The sound source distributions and their directivities in the axial directions have been analyzed using the SODIX method. Exemplary results for different configurations are presented and discussed, for example the changes to the sound field induced by the installation of a wing over the engine or the increase of nozzle sources and the reduction of jet noise caused by a serrated nozzle on the bypass.

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