



Published on *CD-adapco* (<http://www.cd-adapco.com>)

[Home](#) > NUMERICAL INVESTIGATIONS ON THE NOISE CHARACTERISTICS OF A RADIAL FAN WITH FORWARD CURVED BLADES

NUMERICAL INVESTIGATIONS ON THE NOISE CHARACTERISTICS OF A RADIAL FAN WITH FORWARD CURVED BLADES

Date:

Sunday, December 2, 2012

Abstract:

The current study investigates the noise characteristics of a Radial Fan with Forward Curved Blades by performing CFD simulations with the emphasis on employing different Turbulence Models and Unstructured Grids. The predicted noise spectra obtained from CFD results (Star-CCM+), and also hybrid CAA method (coupling of Star-CCM+ and ACTRAN) are in good agreement with the experimental results. Especially the overall trend of the experimental curves as well as the Blade Passing Frequency (BPF) is correctly predicted. Additionally, using transient surface & volume data helped to gain insight into the noise radiated from different parts of the system.

 [Darvish_HTW_Berlin_SGC_2013.pdf](#)^[1]

Author Name:

Manoochehr DARVISH, Stefan FRANK

Author Company:

University of Applied Sciences HTW Berlin

Products:

[STAR-CCM+®](#)^[2] ? [Physics](#) ? [Aeroacoustics](#)^[3]

Industries:

[Academic](#)^[4]

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial strength engineering simulation.

Source URL: http://www.cd-adapco.com/technical_document/numerical-investigations-noise-characteristics-radial-fan-forward-curved-blades?page=1

Links:

[1] [http://www.cd-](http://www.cd-adapco.com/sites/default/files/technical_document/pdf/Darvish_HTW_Berlin_SGC_2013.pdf)

[adapco.com/sites/default/files/technical_document/pdf/Darvish_HTW_Berlin_SGC_2013.pdf](http://www.cd-adapco.com/sites/default/files/technical_document/pdf/Darvish_HTW_Berlin_SGC_2013.pdf)

[2] <http://www.cd-adapco.com/products/star-ccm%C2%AE>

[3] <http://www.cd-adapco.com/products/star-ccm%C2%AE/aeroacoustics>

[4] <http://www.cd-adapco.com/industries/academic>