



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

[Home](#) > Numerical Modelling of Cavitation: Validation and Parametric Studies

Numerical Modelling of Cavitation: Validation and Parametric Studies

Engineering Applications of Computational Fluid Mechanics

Pages:

15-24

Volume:

6

Issue:

1

Date:

Thursday, March 1, 2012

The objective of the present work is to investigate numerically the 3D flow within diesel injector-like geometry using a cavitation model implemented in a commercial CFD code. A comprehensive study of various numerical parameters is performed which can subsequently be used to simulate cavitation under realistic diesel engine conditions. Numerical predictions were performed on a throttle channel at different operating conditions, with and without cavitation, and compared to available experimental measurements. Overall, it was found that the cavitation model was able to predict the onset of cavitation. Satisfactory agreement was found in both the injection rate and the occurrence of choked flow conditions when compared with experiments.

Author Name:

X. Margot

S. Hoyas

A. Gil

S. Patouna

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

Industries:

Products:

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/journal/numerical-modelling-cavitation-validation-and-parametric-studies>

Links:

[1] <http://www.cd-adapco.com/sites/default/files/journal/pdf/cavitation.pdf>