

Experiments in Fluid Mechanics 2015

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Institute of Aeronautics and Applied Mechanics

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Title of presentation:
Manufacturing related issues in testing of RPM made CRP ducted drives
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Abstract:
Designing better drives for micro air vehicles (MAV) is a growing demand for aerospace industry. This process can be proceed by means of simplified computational methods, but finally it requires either sophisticated, and time-consuming simulations or/and testing. This presentation is devoted to experimental testing of drives manufactured by means of rapid prototyping methods allowing for fast experimental evaluation of a design. Model precision discussion for different methods of manufacturing will be presented as well as influence of main factors of geometry reproduction on the results (thrust and power consumed). A simulation of investigated type of drive will be presented as a complementary study for local flow properties analysis.