

## عنوان مقاله:

A Reliable Pressure Strain Correlation Model for Complex Turbulent Flows

## محل انتشار:

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## خلاصه مقاله:

Developing an accurate and reliable model for the pressure strain correlation is a critical need for the success of the Reynolds Stress Modeling approach. This is challenging because replicating the non-local effects of pressure using a modeling basis composed of local tensors is limiting. In this paper we use physics based arguments and analysis of simulation data to select additional tensors to extend this modeling basis for pressure strain correlation modeling to formulate models with improved precision and robustness. We integrate these tensors in the modeling basis and develop separate models for the slow and rapid pressure strain correlation. This complete pressure strain correlation model is tested for different turbulent flows and its predictions are compared to prior pressure strain correlation models. We show that the new model with an extended tensor basis is able to show improvements in accuracy and reliability.

## کلمات کلیدی:

Reynolds stress models, Turbulence modeling, Computational fluid dynamics, Pressure strain correlation

## لینک ثابت مقاله در پایگاه سیویلیکا:

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