TOWARD THE CFD SIMULATION OF SIROCCO FANS: FROM SELECTING A TURBULENCE MODEL TO THE ROLE OF CELL SHAPES

This paper presents a comprehensive study on the CFD simulation of a radial fan with forward curved blades emphasizing on turbulence models and unstructured grids. Three of the most widely used turbulence models i.e. Realizable k-?, SST k-? and Spalart-Allmaras are validated with the available experimental results. The model performance comparison is based on the characteristic curves and the velocity fields obtained from each model. The other part of the study concentrates on the unstructured grids, addressing the influence of cell shapes on the accuracy of the results. The verification efforts in this part focus on predicting the characteristic curves.

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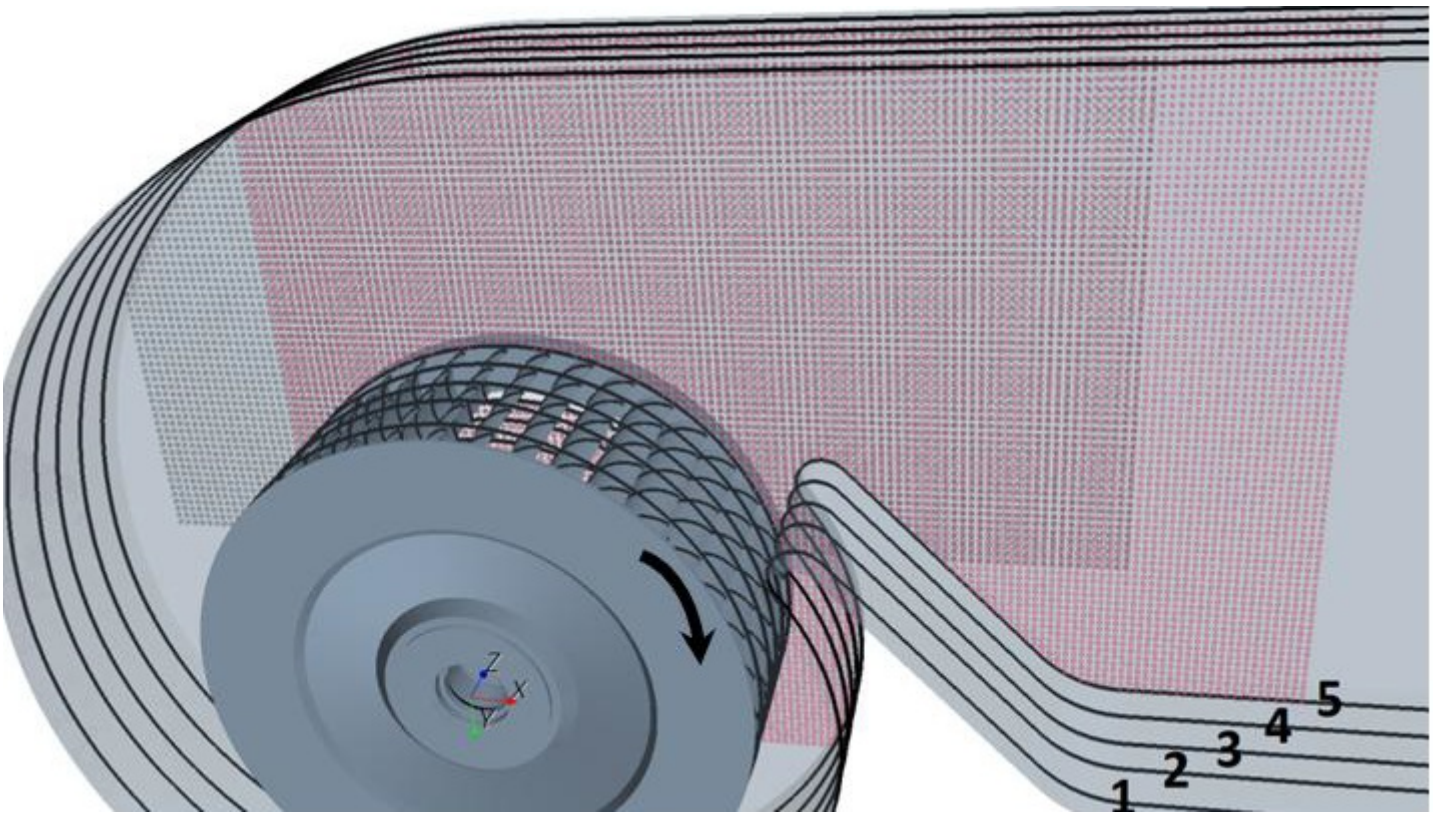

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