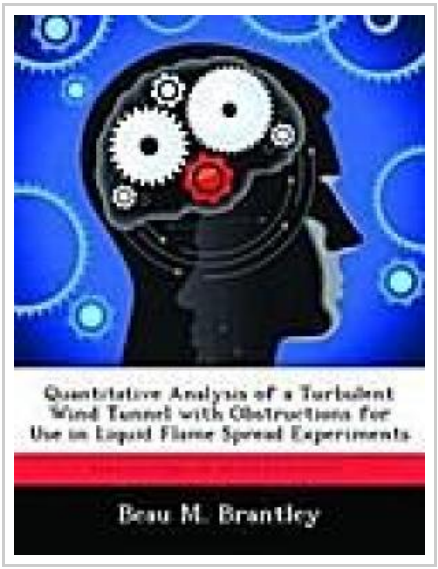

Quantitative Analysis of a Turbulent Wind Tunnel with Obstructions for Use in Liquid Flame Spread Experiments

By Beau M. Brantley

Bibliioscholar Okt 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x7 mm. This item is printed on demand - Print on Demand Neuware - The research was done as part of an effort to develop alternative fire suppressant technologies for aircraft engine nacelles. The turbulent shear flow behind a surface mounted fence inside an open circuit wind tunnel was investigated experimentally. The tunnel test section was designed to be 2-D and exhibit flow qualities similar to those found in typical engine nacelles. A 279 mm wide fuel pan was inserted approximately four fence heights downstream of the fence location. The fuel pan was filled using water to simulate fuel with a depth of 32 mm. Cold flow tests were done on different fence configurations with turbulent airflow. The average turbulence intensity in the streamwise direction was 12% at the forward edge of the pan and with no fence in place. The Reynolds number was 2 x 104 in the free stream and based on a fence height of 50.8 mm. Several fences were used to simulate general types of clutter elements. The height, length, degree of perforation, and distance to the fuel pan were all fence geometries that were tested. Measurements were...

Reviews

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