Abstract Submitted
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Design and Testing of an Educational Water Tunnel SRINIVAS KOSARAJU, Northern Arizona University — A new water tunnel is being designed and tested for educational and research purposes at Northern Arizona University. The university currently owns a wind tunnel with a test section of 12in X 12in X 24in. However, due to limited size of test section and range of Reynolds numbers, its application is currently limited to very few experiments. In an effort to expand the educational and research capabilities, a student team is tasked to design, build and test a water tunnel as a Capstone Senior Design project. The water tunnel is expected to have a test section of 8in X 8in X 18in. and be able to test up to Re = 30,000. The water tunnel will be designed to accommodate multiple experiments for drag and lift studies. It will also have dies of different colors to study the streamlines and vortex shedding from the surfaces. Numerical models will be used to optimize the flow field inside the test section before building the physical apparatus.

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