RESEARCH ABSTRACT FORM

TITLE: Studying drag around car bodies through a wind tunnel via *Algor* finite element analysis (FEA) software

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The purpose of this research project was to analyze drag and steady fluid flow around various car bodies by constructing a fluid generation around models and running them through a steady analysis. Accordingly, we incorporated new technology by forgoing the traditional mechanical wind tunnel but using *Algor* finite element analysis (FEA) software. The FEA software allows engineers to virtually test and predict real-world behavior of new and existing product designs. We were able to design a wind tunnel as we needed on *Algor*. The car bodies we tested differed from; trucks, Camry's, conical shapes, concept cars, etc. Essentially, we are trying to obtain car bodies that produce the least amount of drag. We designed the car bodies using *SolidWorks*, a 3D CAD software. Then we proceed to import the data into *Algor*. We constrain the individual models, accordingly, and run them through a steady fluid flow analysis. After the results are calculated, we are able to compute drag on the individual bodies. Thus, determining the most aerodynamic and efficient car bodies.