

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)  
Interactive Presentations - IAF MATERIALS AND STRUCTURES SYMPOSIUM (IP)

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CFD ANALYSIS AND EXPERIMENTAL VERIFICATION OF KRAFT PAPER BODY TUBE FOR  
SOUNDING ROCKETS

**Abstract**

Sounding rockets need to move towards affordability and sustainability for students to launch all the while being eco-friendly. This paper intends to prove the aerodynamic efficiency of Kraft Paper layered with wood glue as the adhesive body tube in sounding and high-powered rocketry.

The paper involves the aerodynamic coefficients obtained from CFD simulations and experimental verification from the wind tunnel operations. The values are compared to prove the accuracy. Also, efforts to develop a very simple error-correction algorithm for the values received from the CFD to match the real values are underway.

This study is aimed to help students of various backgrounds to develop affordable, efficient and more environmentally-safer Sounding Rockets.