Design of a Thrust Stand to Introduce Propulsion Concepts in the Classroom

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Overview
A thrust stand was developed for use in the undergraduate aerospace engineering curriculum at UAH. Students use the thrust stand to investigate the performance of a rubber-band and propeller propulsion system and to optimize their design of a simple powered aircraft.

Features
• Simple user interface
• Robust mechanical design
• 3D printed brackets
• Auto-zero and auto-start test
• Electrical system with adjustable gain
• Comprehensive documentation
• Classroom lab material

Impact
• Thrust stand and curricula used by aerospace students in the classroom
• Hands on testing and research opportunity for undergraduates
• Open design and comprehensive documentation enables future applications and improvements
• Conference experience at AIAA Student Conference and Scitech

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