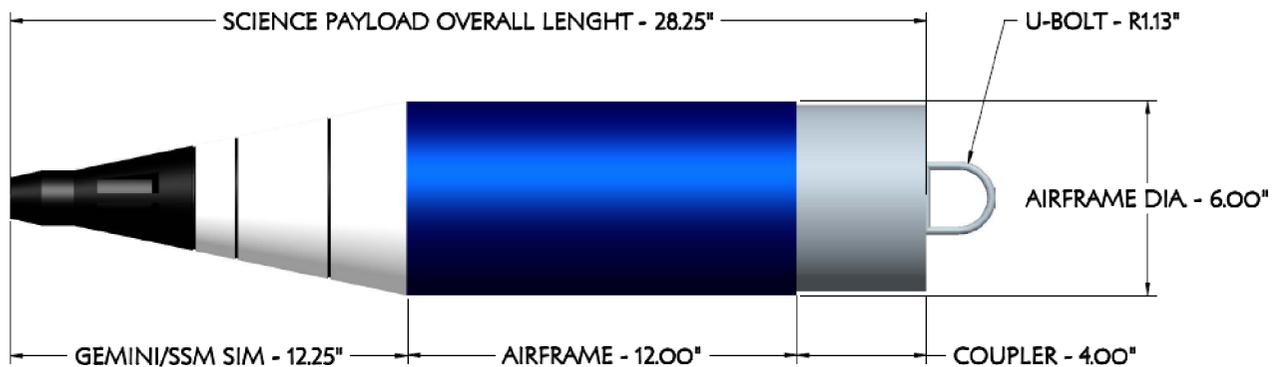
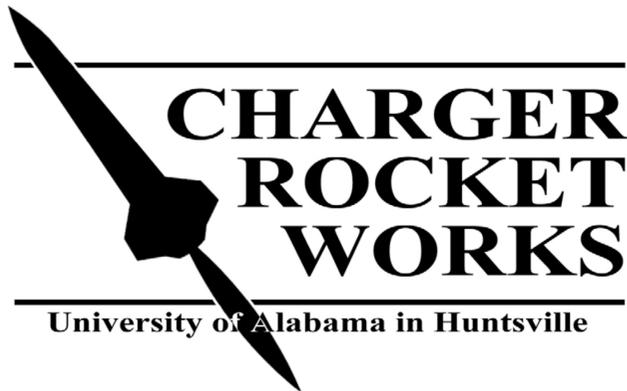


# Aethon Research Rocket Charger Rocket Works

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## Overview

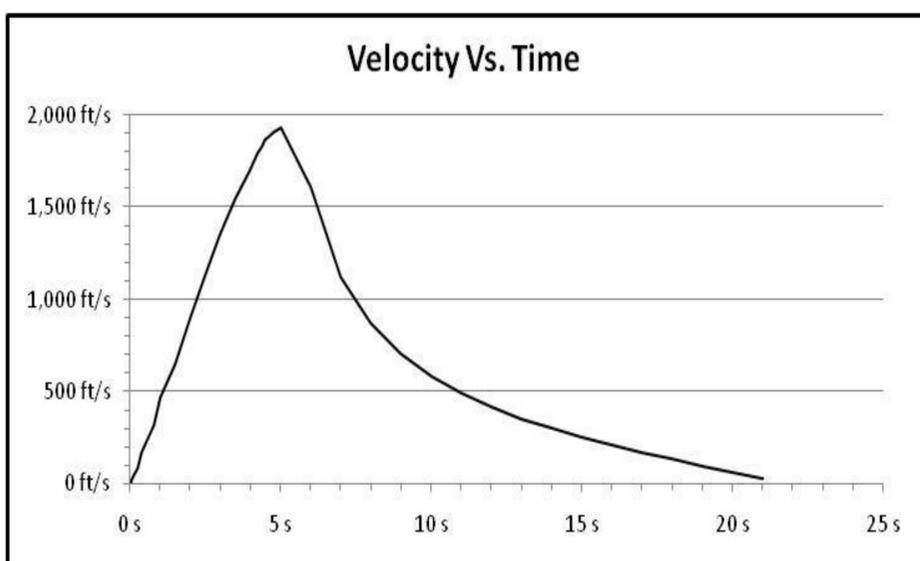
Charger Rocket Works at UAHuntsville is developing a reusable sounding rocket for the pilot year of the NASA University Student Launch Initiative Level Two program. The Aethon research rocket will gather aerodynamic pressure data around the surface of a scale test vehicle in flight at speeds reaching Mach 1.3. The Aethon rocket must also reach the program target altitude of 10,000 feet. The rocket and payload will splash down in the ocean and must be recovered by boat. The primary objective of this experiment is to prove if a subscale flight test vehicle flying a Mach speed profile can gather useful aerodynamic data that can be applied in the design of a full scale vehicle.

## Impact

Post flight analysis will characterize dynamic pressure and shockwaves around the SSM component. The data will be used to optimize the structural design of the SSM. The data will be used by another UAHuntsville class to design a spaceflight component for the Americans In Orbit – 50 Years (AIO-50) organization.

## Key Findings

Charger Rocket Works will build and fly a scale Gemini spacecraft with Space Science Module (SSM) atop a high powered rocket that simulates the maximum aerodynamic pressure (Max Q) that a full scale vehicle would experience during ascent. The payload instruments will record pressure across the SSM simulator's surface.



## Acknowledgements

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