

i am an INNOVATOR



National Aeronautics and
Space Administration



Many customers would like to test rocket engines with pulsing mission duty cycles, but White Sands Test Facility instrumentation and thrust stands are designed to only accommodate static hot fires . . . until, that is, Jeremy Bruggemann and Logan Ream designed a mobile modal testing unit (MMTU). The new modal testing system can determine the dynamic characteristics of WSTF's thrust stands and other critical structures.

The new MMTU determines and records characteristics of the thrust stands to provide clear constraints on dynamic testing. Data are collected for the five most energetic modes with frequencies lower than 400 Hz, including information on range of pulsing frequencies, and mode frequencies, damping, and shapes. This innovation by Bruggemann and Ream meets the needs of customers interested in pulsed propulsion system testing.