



NASA SBIR 2018 Phase I Solicitation

Z4.01 MISSE Experiments

Lead Center: LaRC

Participating Center(s): MSFC

Technology Area: TA12 Materials, Structures, Mechanical Systems and Manufacturing

Space technology experiments are solicited to fly on a new space environmental effects platform on the outside of the International Space Station (ISS). The new platform is called the MISSE-FF (Materials International Space Station Experiment - Flight Facility). The MISSE-FF provides experiment accommodations for both active experiments (requires power and communications) and passive experiments. The technology can be materials or non-materials (devices). The physical size of the experiments can vary depending on the technology being demonstrated (2 inches by 2 inches up to 7 inches by 14 inches). Of special interest are space technologies already developed under the NASA SBIR program, particularly technologies that would mature in TRL due to successful demonstration in the space environment. The proposal should justify the need for spaceflight exposure and justify that the ISS environment is adequate to gather the data they need. The commercial partner Alpha Space Test and Research Alliance, LLC (Alpha Space) plans to service the MISSE-FF every 6 months. The MISSE-FF data will be made available to the global community of researchers through the NASA MAPTIS (Materials and Processes Technical Information System) database. Phase I deliverables could be data from ground testing the candidate technology and passive samples for flight on the MISSE-FF. Phase II deliverables could include an active technology experiment, packaged and ready for flight on the MISSE-FF. The experiments would fly free of charge with standard services on the NASA surface area allocation of the MISSE-FF. Any optional services desired from Alpha Space should be included in the proposal budget.