

STELLAR TEAM

NOBLE MISSION

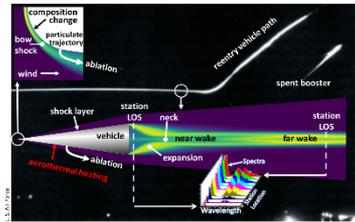


SBIR/STTR TC Technology Investment Areas and Capability Needs

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TC Technology Investment Areas



HDS

- Simultaneous Multiple Objects System – 2 PII

TPS

- Thermo-physical Property Characteristics of Decomposing Aerospace Materials: Transitioned to DV Phase III
- RF Transparent TPS: 2 PII
- Additively Manufactured TPS: 2 PII
- New Carbon-Sil TPS – Future PII Effort

M&S

- Complex Endo-atmospheric Wakes – PII E
- RF Signature Tool: 1 Phase II
- Plume Characterization for waking on re-entry – 1 PII
- Uncertainty Modeling in a Hypersonics Environment

Launch Vehicles

- Vertical Air Breathing Launch Technology (VALT)
- Air Launch Target Concept: PII – On Future Contract
- Innovative Ground Launch Concept: Future PII Effort

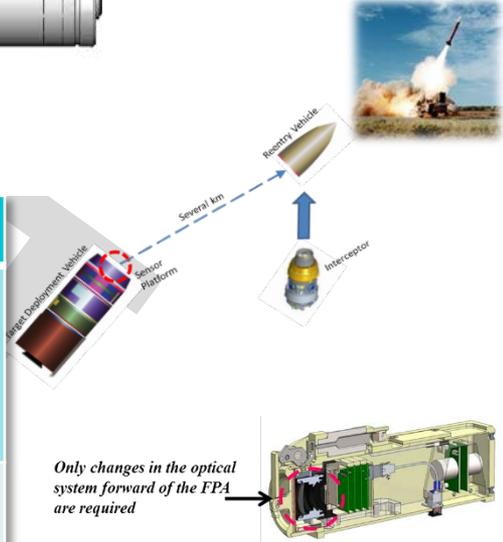
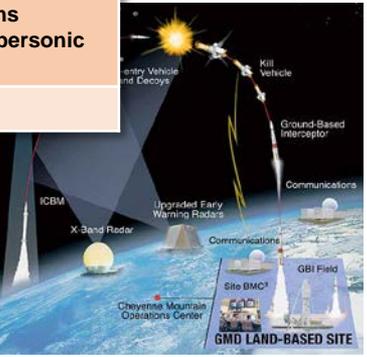
Telemetry

- Advanced Data Compression P-II E – Transitioned to DV NASROC Mission
- Programmable Multi-frequency Transmitter
- Continuous Communications Through Plasma During Hypersonic Flight

Instrumentation & Technology Enhancement

- Sensors for Anchoring Rocket Motor Debris Models – Supporting T3C2 - P-II RB
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- Modular, stabilized tracking & pointing system for Hit/Kill Assessment P-II RB
- Aft Looking Spectrometer for Plume Char – PII
- Improved Algorithms and lower SWAP Avionics H/W – 2 PII
- Communication through the Plasma – 2 PII (On contract 1/1/21)
- HALO Conformal Antenna – Future PII
- Subscale Fly Along Sensor Package (SFASP) – Future PII

LEGEND	Transitioned
	Current
	Future



Only changes in the optical system forward of the FPA are required



Active TC SBIR/STTR Efforts

Type	Title	Vendor	TM	POP	Amount
HDS	Simultaneous Multiple Object Detection System (Fiber Optic Hit Grid with Advanced Electronics)	SemQuest, Inc. // U of Colorado at Colorado Springs	Claude Snoddy	9/18 - 8/21	\$1M
	High-Speed Simultaneous Multiple Object Hit Detection System	FreEnt	Claude Snoddy	7/18 - 8/21	\$1M
Instrumentation & Technology Enhancement	Modular, stabilized tracking & pointing system for Adv. Hit/Kill Assessment	Control Vision Inc. (CVI)	Claude Snoddy	9/16-3/21	\$1M
	Advanced Sensors for Anchoring Rocket Motor Debris Models (Hyperspectral)	Control Vision Inc. (CVI)	Claude Snoddy	12/16-9/21	\$2.2M
	Aft Looking Spectrometer for Plume Characterization and Waking on Re-entry	Nanohmics, Inc.	Claude Snoddy	3/18 - 3/21	\$1M
	VBITS - AFTS & Space Based Range to reduce launch and T&E Cost Simplify Existing Technology to Reduce Cost of Military Infrastructure	Space Information Labs (SIL)	Terrence Randolph	10/19-9/21	\$1.5M (\$1.5M)
	Signal Generator System and Test Bed	Nokomis, Inc.	Andy Crooker	4/18-1/21	\$1M
	Miniaturize Avionics for Missile Systems	Spectral Energies, LLC	Dan Adcock	2/19 - 2/21	\$1M
	Miniaturize Avionics for Missile Systems	Intelligent Fiber Optic Systems Corp. (IFOS)	Dan Adcock	9/19-9/21	\$1M
Launch Vehicle	Hypersonic Air-Breathing Delivery Systems	VALT	Justin Warren	11/2011/23	\$3M (\$3M)
M&S	Fast-Running Re-Entry Vehicle Wake Signature Tools, Inc.	Spectral Sciences	Claude Snoddy	4/18 - 8/21	\$1M
Telemetry	Continuous Communications Through Plasma During Hypersonic Flight	MAGICOM	Andy Crooker	TBD	\$1.5M
	Continuous Communications Through Plasma During Hypersonic Flight	IERUS	Andy Crooker	TBD	\$1.5M
TPS	TPS materials that RF transparent in one direction	NanoSonic, Inc.	Dan Adcock	7/19 - 7/21	\$1M
	TPS materials that RF transparent in one direction	Rock West Composites, Inc.	Dan Adcock	7/19 - 7/21	\$0.9M
	Novel Additively-manufactured Composite External Hypersonic Heat Shield NACE HHS	NanoArmor	Justin Warren	TBD	\$1.5M
	Additive Manufacturing of TZM Refractory Metals for Hypersonic Thermal Management Structures	The ExOne Co	Justin Warren	TBD	\$1.5M
					\$22.6M (\$27.1M)



Future SBIR/STTR Efforts

Type	Title
HDS	
TPS	PSI C/SiC Maturation – Future PII Effort
M&S	Uncertainty Modeling in a Hypersonics Environment
Launch Vehicles	Air-Launch Target Concept: Future PII Effort
	Innovative Ground Launch Concept: Future PII Effort
Instrumentation and Technology Enhancement	Communication through the Plasma – 2 PII (On contract 1/1/21)
	HALO Conformal Antenna – Future PII
	Subscale Fly Along Sensor Package (SFASP) – Future PII
	Automated Flight Safety System (AFSS)
	Hyperspectral