

NASA SBIR/STTR Technologies

Simultaneous Temperature and Velocity Diagnostic for Reacting Flows



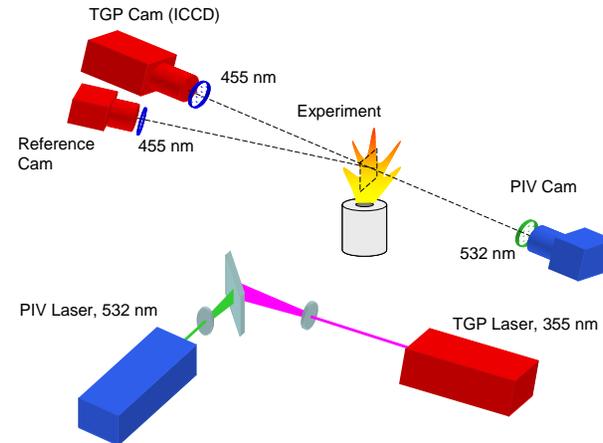
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Proposal No: 10-A2.02-9573

Identification and Significance of Innovation

A laser technique for measuring temperature and velocity simultaneously in a high temperature reacting flows for research in propulsion, involving seeding particles of a ceramic thermographic phosphor into the flow.

Expected TRL Range at the End of Contract (1-9): 3



Technical Objectives and Work Plan

1. Kickoff Meeting
2. Construct Burner System
3. Imaging Experiments of Phosphor Particles in a Flame
4. Calibration of Phosphor Particles
5. Optimization of Dual Gate Technique
6. Demonstration of Whole Field Thermometry
7. Compatibility of PIV
8. Feasibility of PIVT
9. Reporting

NASA and Non-NASA Applications

NASA: As a tool for research on extremely-low-emission engines, propulsion control and engine health management, and modeling and simulation.

Non-NASA: Government labs, research institutions and universities, aircraft engine manufacturers, and automobile engine manufacturers

Firm Contacts

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NON-PROPRIETARY DATA