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## Paper Session I-A - Unmanned Aerial Vehicles as Technology Demonstrators for Advanced Range Systems

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## **Section 1A Technologies for Future Spaceports and Ranges Unmanned Aerial Vehicles as Technology Demonstrators for Advanced Range Systems**

This project consists of the development and operation of an unmanned aerial vehicle (UAV) as a technology demonstration test bed for advanced range systems under development at Kennedy Space Center. The goal is to acquire a reliable, rapidly accessible vehicle for initial flight testing of electronic payloads through a limited portion of airspace to verify basic communications, command and control, tracking, and telemetry functions. The cost and schedule benefits of the project should exceed the other available options of flight in actual manned aircraft or sounding rockets.

The vehicle will be remotely piloted with a reliable command and control system independent of the devices under test. It must account for any failure modes, and have contingencies to maximize safety of the operations. The UAV will provide standardized mounting, protection, and power to the devices under test. Considerations of airspace, FAA regulations, and authorizations for UAV operations must be thoroughly evaluated.

This rapid demonstration capability will expedite development and initial testing of advanced range systems projects, and provide gains in overall UAV knowledge, at a reasonable cost. The project fits well within existing ARTWG (Advanced Range Technology Working Group) Roadmaps for the future of Range Systems.



Example of Unmanned Aerial Vehicle, Thorpe Seep Corporation.

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