

ARM Aerial Instrumentation Update and Discussion

Conveners: Fan Mei, Dari Dexheimer, Beat Schmid

- Beat Schmid: Challenger 850 and ArcticShark update
 - Workshop Summary:
 - 42 white paper submissions
 - 45 presentations: AAF current capability presentations, white paper presentations and motivating presentations by invited experts.
 - Challenger 850 Timeline:
 - CY2022 Science and Engineering Test Flights
 - CY 2023 First Science Mission
 - For a CY2024 mission, restrict possible deployment locations to continental US (including Alaska)
 - For CY2025 allow international locations
 - ArcticShark Status
 - Acceptance test flights with repaired/modified ArcticShark in June 2021
 - Working on flights on TigerShark platforms operated by partners (MSU, NAVAIR)
 - 1st Science Mission: Clear air flight over SGP (COV approved Summer, 2019 for 2 years)

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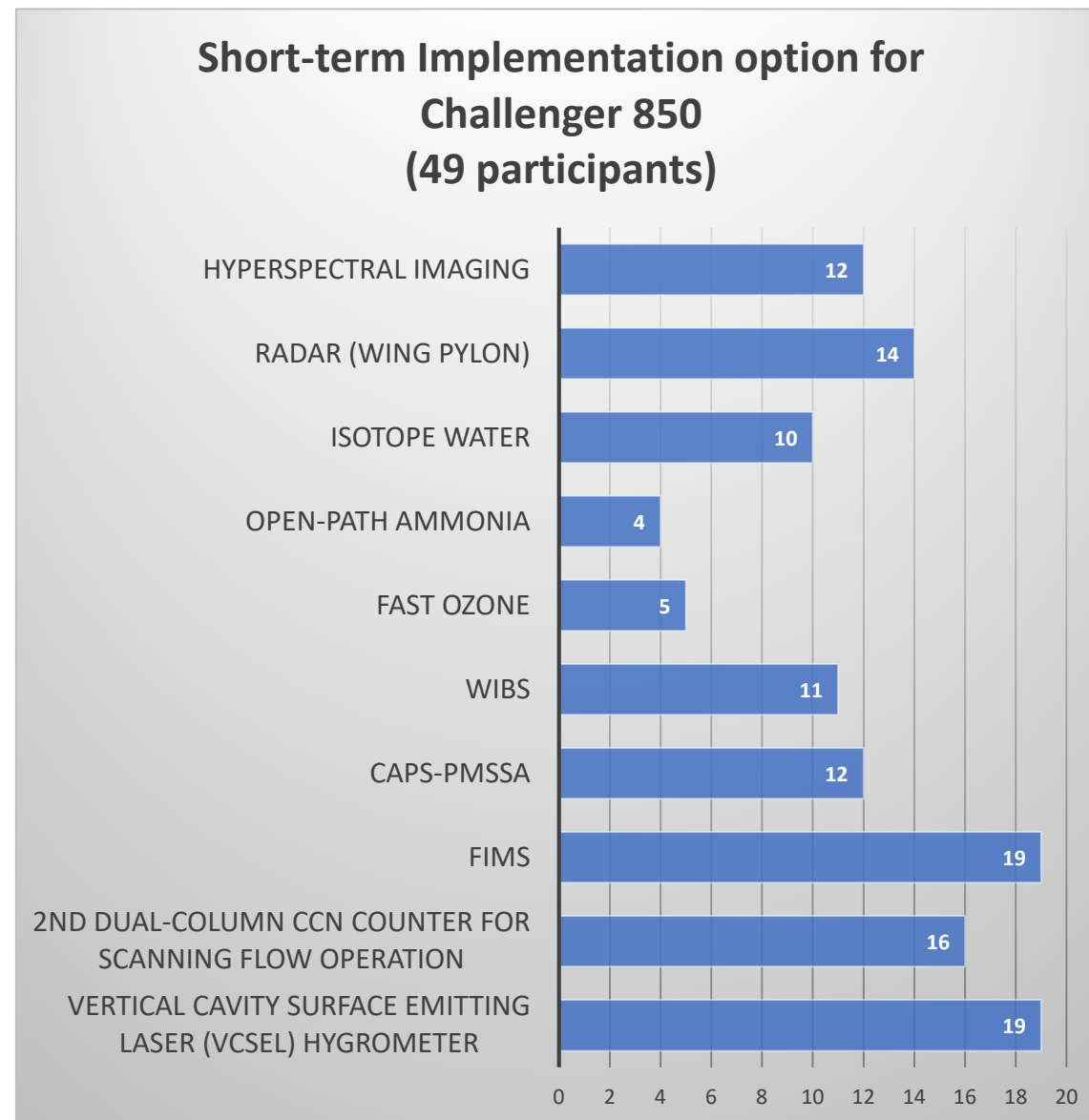
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- Jason Tomlinson: Challenger 850 modifications (everything presented is notional and subject to change)
 - Cabin modification: ease of access, durable, safety, rapid integration and modularity, functional capability (vacuum source, exhaust, compressed air)
 - Research power and distribution
 - Wing pylons (**3 attach points under each wing**)
 - Fuselage mounting aperture (**Zenith and Nadir, 20.5" circular aperture**)
 - Fuselage mounting feature (RHS galley service door and two window plates)
 - Pathway to global operations
- Polling results (49 participants)
 - LiDAR
 - Dropsonde unit and chute

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- Fan Mei: Instruments for Challenger 850 aircraft
 - Short term implementation options (< 3 years)
 - Commercially available
 - Have reliable deployment history
 - Potential facility instruments
 - Mid/Long term implementation options
 - Concept with a strong science driver
 - Require significant funding to support
 - Commercially available, but require major aircraft modification
- Polling results (49 participants)



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- Dari Dexheimer/Fan Mei: Instruments (existing and proposed) for TBS and UAS

