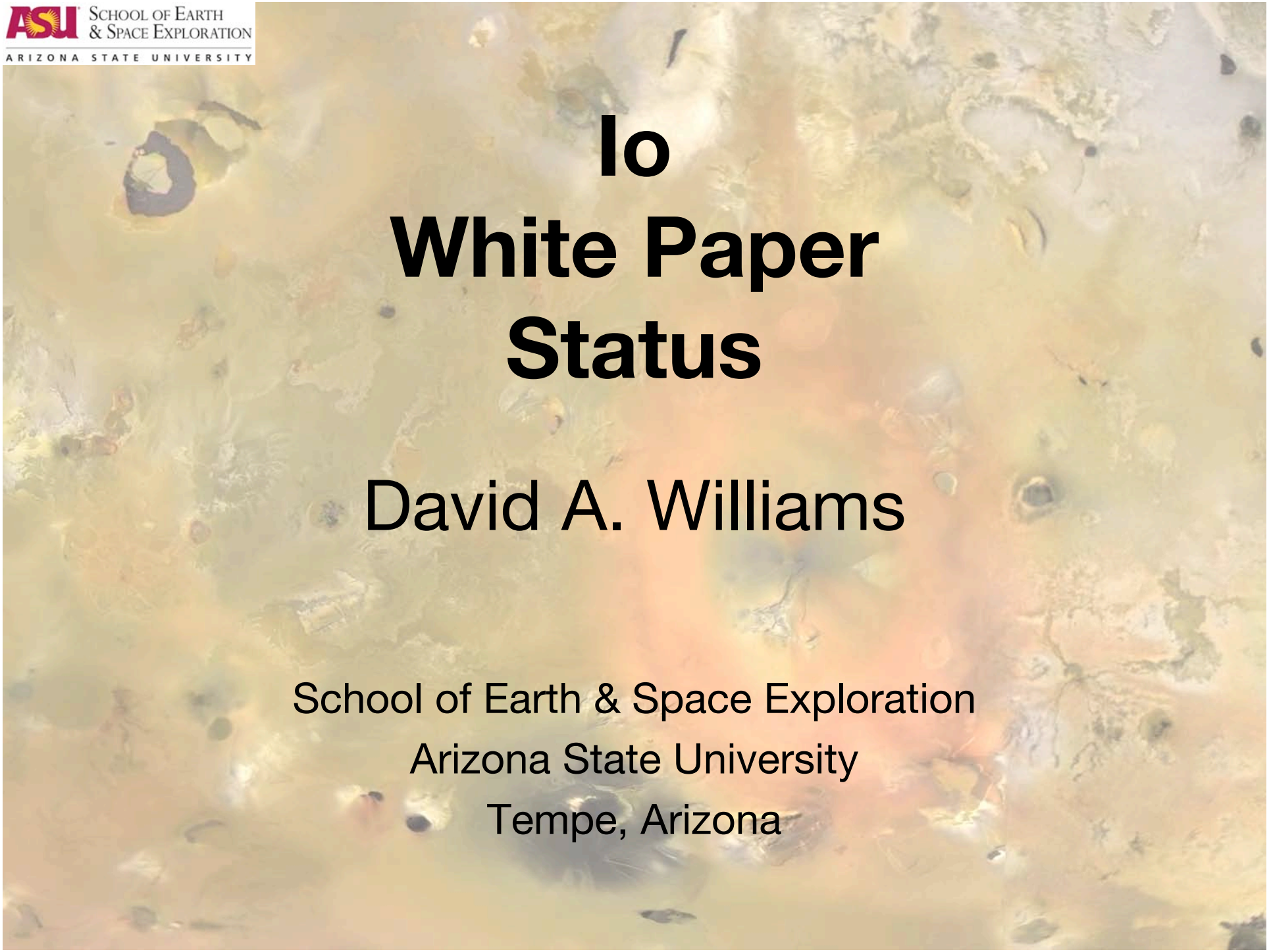

Io White Paper Status

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Outline

- Organization
- Current Authorship
- Recommendations
- Status & Submission

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Organization

Io: Future Exploration for 2013-2023 and Beyond

- Executive Summary (& Recommendations): 2 pages
- Report: 17 pages
  - Io Should Be A Priority For Future Exploration
    - Intrinsic Interest, Extrinsic Interest (Tidal Heating, SS History, Atmosphere, Magnetospheric Interactions)
  - Outstanding Questions And Science Goals
    - Interior Composition & Structure, Heat Flow, Surface Chemistry, Tectonic and Surface Processes, Volcanism, Surface Age & Cratering Timescales, Atmosphere, Mass Loss & the Torus
  - How We Can Make Progress
    - Missions for 2013-2023, Missions Beyond 2023, Space-Based Telescopes, Ground-based Telescopes
  - References
- Adding figures desirable. Space limitations??

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Current Authorship

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Recommendations I

1. We recommend that NASA pursue a balanced solar system exploration program between life-focused and general exploration missions.

2. Although considerable Io observations are planned by EJSM between 2025-2028, we recommend that a better goal for the next Decadal Survey is to support a more modest 'Io Observer' mission of the *Discovery*-class or *New Frontiers*-class in the next decade.

3. We support the IVO mission, currently under study, as a candidate for a *Discovery*-class 'Io Observer' mission, consistent with previous Decadal Survey and current Io science goals.

4. We advocate for *New Frontiers* mission concepts for a 'Io Observer' mission later this decade, when RPS are again available for NF missions, consistent with previous Decadal Survey and current Io science goals.

5. We recommend that an Io orbiter be considered as a mission concept in the future, pending results from any jovi-centric 'Io Observers' operated during the 2013-2023 decade.

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Recommendations II

6. We recommend that *in situ* Io missions, perhaps penetrators, landers, or rovers, be considered as mission concepts in the future after any 'Io Observer' missions.

7. We advocate for a space-based UV telescope with diffraction-limited capability to study Io and other planetary targets in the 2013-2023 decade.

8. We advocate for space-based missions that enable long-term (years) monitoring of Io over a range of time scales (seconds, minutes, hours, days, months, years) and spatial and spectral resolutions, and we support the Io observations planned by the EJSM.

9. We recommend that NASA expand the time available for general planetary science on 8-10-meter class telescopes, by purchasing more time on existing facilities, or by constructing a dedicated large planetary telescope with nighttime AO capabilities.

10. We recommend that future NASA Io-dedicated space missions should include in their budgets support for ground-based monitoring programs that can enhance the spacecraft science return, e.g., by providing better temporal coverage of volcanic eruptions, for a small fraction of the mission cost.

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Status & Submission

- Currently working on 6th iteration
- Received and incorporated comments from all listed coauthors
- Additional input/suggestions welcome
- Goal: Submit to DS Satellites Panel prior to their first meeting in Washington DC on August 24-26

Haven't seen a draft yet? Please email me at:

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