

Propositions associated with the thesis

“Spectropolarimetry for planetary exploration”

1. Trying to quantify the accuracy of a state-of-the-art instrument like SPEX inevitably creates a chicken-and-egg problem that cannot be solved. The best one can hope for is agreement at a certain level between calibration measurements, calibration measurements of the calibrator, models of the instrument and calibrator, and comparison with other state-of-the-art instruments if they exist (Chapter 4).
2. SPEX will be better than AERONET at measuring aerosol microphysical parameters (Chapter 5).
3. Multi-domain polarization modulation combines the best of both worlds. For instance, SPEX' spatio-spectral modulation allows for a dynamic transmission correction and spectral line polarimetry, while boosting the polarimetric accuracy (Chapters 1 and 6).
4. Contrary to lens designs, an achromatic solution is not necessary and often counterproductive for efficient polarimetry over a large wavelength range (Chapter 1).
5. The learning experience of a conference on Earth observation starts on the plane when looking down at the Earth.
6. A significant reduction in the uncertainty in the aerosol radiative forcing thanks to a SPEX-like mission will lead to better and more credible climate politics.
7. Open peer review creates more problems than it solves.
8. “Instrumentation is science” and “Instrumentation is not science” are both incorrect statements, but the first is closer to the truth.

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