

Interactive comment on “Ground-based water vapor Raman lidar measurements up to the upper troposphere and lower stratosphere – Part 2: Data analysis and calibration for long-term monitoring” by T. Leblanc et al.

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Review of: Ground-Based Water Vapor Raman Lidar Measurements up to the Upper Troposphere and Lower Stratosphere. Part 2: Data Analysis and Calibration for Long-Term Monitoring

The paper reports data treatment and calibration procedures for a UTLS water vapor Raman lidar and results from MOHAVE field campaign. The subject and the results the

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paper will be of interest to lidar and atmospheric science researchers even though the presented techniques are not new. I support the proposed by the first reviewer merging with the companion paper after some necessary reduction in volume of both parts but mostly of part one.

Additional comments on the hybrid calibration

The hybrid calibration relies on the spectral stability of an incandescent calibration lamp. The method allows detection of the changes in the optical efficiency of the receiver (spectral unit and detector) but does not detect the misalignment of the laser beam versus the receiver. The beam misalignment could affect the calibration constant through: changes in the transmission of the interference filters (angular dependence) ; changes in overlap functions ; and through spatial nonuniformity of the PMT photocathode. Since the calibration lamp illuminates the receiver directly and by diffuse scattering from the surrounding objects (telescope housing, roof etc.) any change in the lamp position (as mentioned by the authors) and changes in the spectral distribution of the diffusely scattered light, may compromise the calibration.

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