Validation of AEOLUS L2A products using a multiwavelength lidar system at SPU Lidar Station - Brazil

Fábio Lopes[1,5], Alexandre Yoshida[2,5], Alexandre Cacheffo[2,5], Jonatan Silva[3,5], Gregori Moreira[4,5], Eduardo Landulfo[5]

1-Departamento de Ciências Ambientais (DCA) – Universidade Federal de São Paulo (UNIFESP), Brasil

2-Instituto de Ciências Exatas e Naturais do Pontal (ICENP) – Universidade Federal de Uberlândia (UFU), Brasil

3-Centro de Ciências Exatas e das Tecnologias (CCET) – Universidade do Oeste da Bahia (UFOB), Brasil

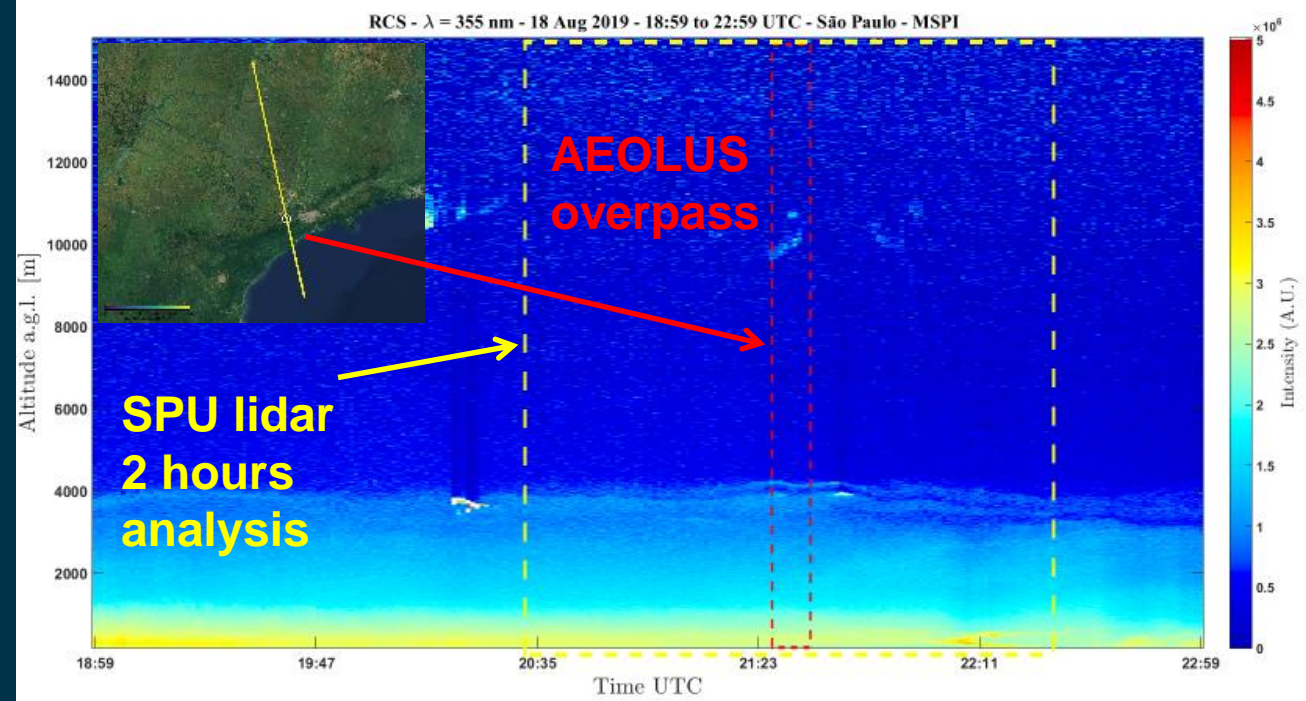4- Instituto Federal de São Paulo-Campus Registro (IFSP), Brasil

5- Centro de Laser e Aplicações (CELAP) – Instituto de Pesquisas Energéticas e Nucleares (IPEN), Brasil

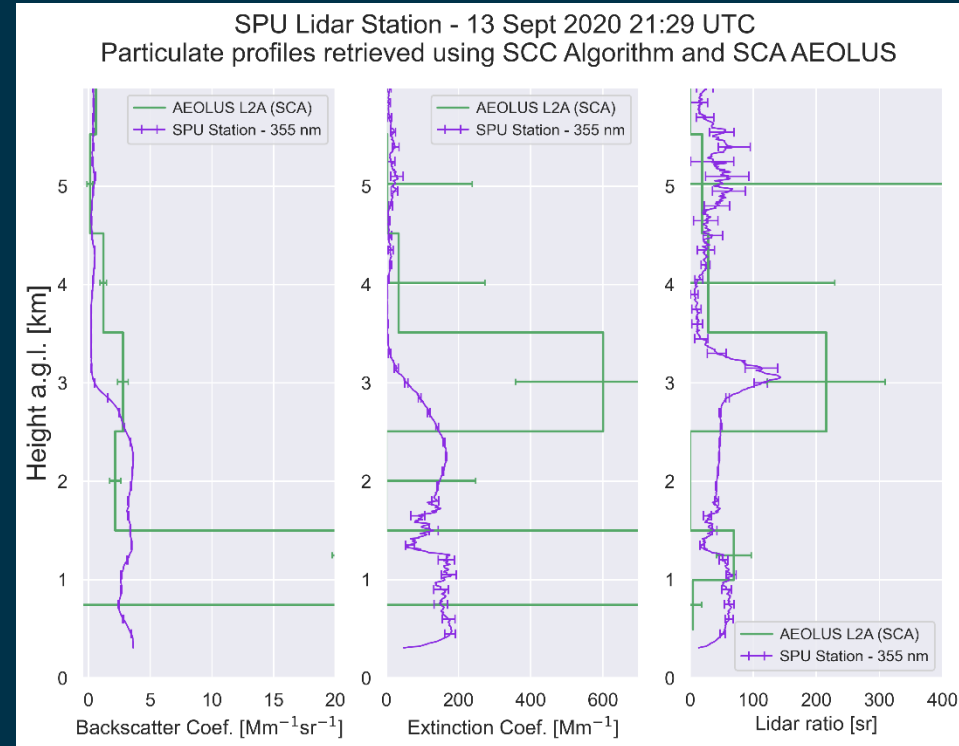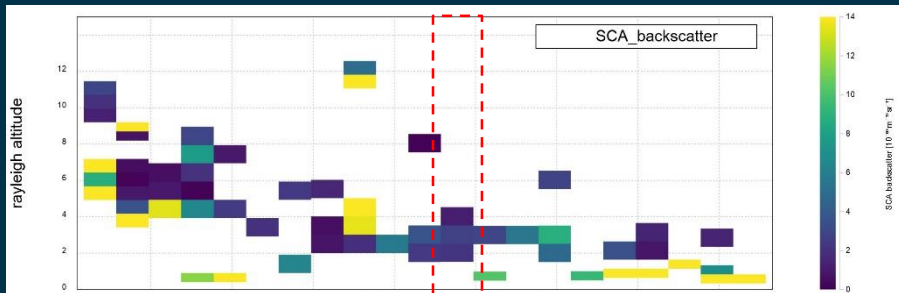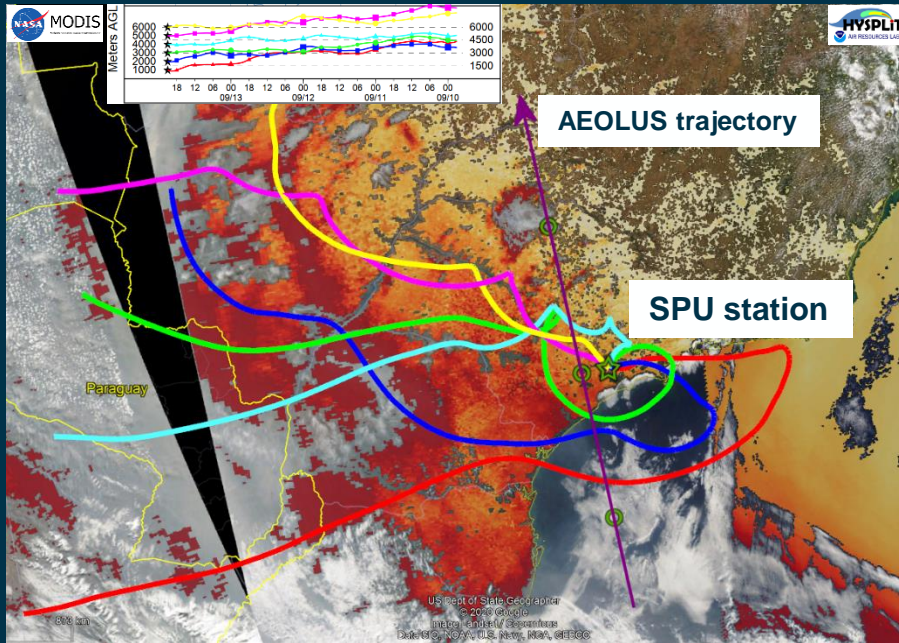Aeolus CAL/VAL and Science Workshop, 2-6 November 2020

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Motivation and method used

SPU Lidar Station – São Paulo – Brazil

Multiwavelength lidar system	
Nd:YAG laser – Brilliant B	400 mJ and 230 MJ @ 532 and 355 nm
Channels	1064 nm (FWHM 1.0 nm) 532 nm (FWHM 1.0 nm) 530 nm (FWHM 0.5 nm) 355 nm (FWHM 1.0 nm) 387 nm (FWHM 0.25 nm) 408 nm (FWHM 0.25 nm)
PMTs	Hamamatsu PM-HV-P03-R7400 / PM-R9880-20
Vertical Resolution	7.5 m

RCS - λ = 355 nm - 18 Aug 2019 - 18:59 to 22:59 UTC - São Paulo - MSPI

AEOLUS overpass

SPU lidar 2 hours analysis

- SPU Lidar station – AEOLUS Validation

- 210 overpasses since 04th November 2018

- 2 overpasses by week - Sundays – 08:49 and 21:29 UTC

- Horizontal distance from SPU Station ~ 102 km

- SPU Lidar Station:
  - 61 correlative measurements since 04th November 2018 ~ 30% of the overpasses

- L2A data products: SCA - Standard Correct Algorithm – backscatter and extinction profiles

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Main results

SPU Lidar Station - 13 Sept 2020 21:29 UTC
Particulate profiles retrieved using SCC Algorithm and SCA AEOLUS

- Comparison of aerosol optical properties from ground-based for biomass burning cases
- Good agreement in lidar ratio for some aerosol layers
- Next steps: systematic analysis between SCA backscatter, extinction and LR and SPU lidar retrievals.