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IAPS ISTITUTO DI ASTROFISICA
E PLANETOLOGIA SPAZIALI

Analysis of special observations by PFS-MEx

Presentazione progetto Mini-grant - Riunione nazionale RSN3

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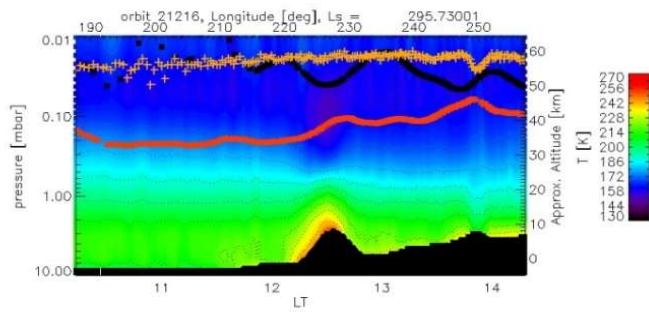
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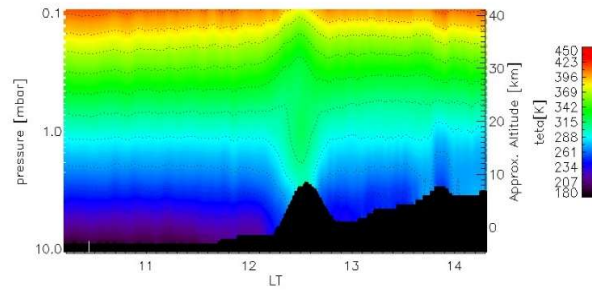
Examples of PFS special orbits



Thermal fields with dust (red) and water ice opacities (black) for the 'scan' orbit 21216.



Potential temperatures for the 'scan' orbit 21216.



Goals of the project

- **Objectives:**

- Characterize the meteorological conditions around volcanoes by means of atmospheric and ground temperatures, water ice and dust aerosols using PFS-MEx nadir and 'scan' observations, and MCS-MRO observations.
- Describe possibly atmospheric circulations around volcanoes using above data and the LMD mesoscale model for the Martian atmosphere.
- Two publications: one based only on observations and second one will deal with model simulations

- **How:**

- By exploiting PFS recently introduced 'scan' observations and MCS-MRO measurements
- By collecting cloud images from different cameras such as VMC, HRSC, MARCI during or closely in time to PFS and MCS observations.

Different phases of the project

WP		TASK	Research Unit	DESCRIPTION	SEMESTER			
					I	II	III	IV
1	Algorithm implementation	1a	IAPS-INAF	Retrieval of atmospheric parameters and surface temperatures	X			
2	Supplementary data	2a	IAPS-INAF	Extraction of MCS-MRO data	X			
		2b	UPV/EHU	Collection of images over volcanoes	X	X		
3	Data analysis	3a	IAPS-INAF	Comparison of data over volcanoes		X	X	X
		3b	IAPS-INAF	Analysis of data over volcanoes		X	X	X
		3c	LMD	Simulation of atmospheric thermal fields over volcanoes using the mesoscale model			X	X