

International Cooperation in Spaceborne Imaging Spectroscopy

09 July 2019

12:30	Registration	
13:30	Welcome and introduction	ESA
13:40	Organisation and logistics	M. Rast
Spaceborne Hyperspectral Missions Overview and Areas of Potential Cooperation		
13:50	The ASI PRISMA Mission, status and perspectives	E. Lopinto
14:10	DESI Imaging Spectrometer data access and synergistic use with other ISS Earth observing instruments	U. Heiden
14:30	EnMAP Mission Overview and Current Status	S. Fischer
14:50	The Earth Surface Mineral Dust Source Investigation (EMIT) Imaging Spectrometer for the International Space Station	R. Green
15.10 - 15:30	Break	
15:30	The NASA Surface Biology and Geology Observing System study	D. Schimel
15:50	Copernicus Hyperspectral Imaging Mission for the Environment (CHIME)	J. Nieke
Harmonisation and coordination of data formats, products and research		
16:10	Towards a Global Spectroscopy - Key Messages to Integrating Disparate, Heterogeneous Space-Time-Spectroscopy Data	M. Schaepmann
16:30	The EnMAP Mission Exploitation and Science Program	A. Schickling
16:50	High-Performance Multi-Sensor Data Analytics Platform for Earth Observation Science	C. Ong
17:10	Architecture Studies for NASA's Surface Biology and Geology Targeted Observable	A. Freeman
17:30	INGV contribution to Hyperspectral space missions studies in VIS-SWIR range: technical and scientific requirements for geological-geophysical applications of ASI-PRISMA	F. Buongiorno
17.50-18.10	Discussion	
18:10	Icebreaker	

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Exchange and harmonisation of geo/biophysical parameter retrieval schemes		
08:30	Harmonising mapping of vegetation traits from imaging spectroscopy	P. Townsend
08:50	Machine learning retrieval of plant traits from non-redundant imaging spectroscopy data	Z. Malenovskiy
09:10	A survey on operational retrieval of vegetation properties from imaging spectroscopy data: opportunities for FLEX and CHIME	J. Verrelst
09:30	Toward Global Soil Surface Mapping and Monitoring from Imaging Spectroscopy: Challenges and Perspectives for Space Retrievals	S. Chabrillat
09:50	Spectral and Spatial Resolution Impact on the Agricultural Topsoil Properties Retrieval: the 2018 Grosseto (Italy) Trial	S. Pignatti
10:10 - 10:30	Break	
Exchange and harmonisation of geo/biophysical parameter retrieval schemes (cont)		
10:30	Preparing for a Spaceborne Imaging Spectrometer: New Algorithms to Retrieve Snow and Ice Properties	J. Dozier

10:50	Urban surface material composition from spaceborne imaging spectroscopy data	U. Heiden
11:10	Science and applications of hyperspectral remote sensing of inland and coastal waters	V.Brando
11:30	Volcanic characteristics by using hyperspectral data: gas emission and lava flow	C. Spinetti
11:50 - 12:20	Discussion	
12:20 - 13:30	Lunch	
Mission calibration and data validation plans and philosophy for data quality assurance and uncertainty quantification		
13:30	Defining a validation plan for spaceborne imaging spectroscopy missions with application to EnMAP	L. Guanter
13:50	PRISCAV: the CAL/VAL strategy for the Italian space imaging spectroscopy mission PRISMA	L. Genesio
14:10	The Calibration, Validation and DataQC Procedures within the EnMAP Ground Segment	M. Bachmann
14:30	Calibration and Validation Considerations for the SBG Mission Architecture Study	K. Turpie
14:50	Commissioning Phase of the Spaceborne DESIS Imaging Spectrometer – Results of the Calibration, Validation and Data Quality Control within the Ground Segment	M. Bachmann
15:10	CSIMBA hyperspectral CubeSat in orbit demonstration mission	S. Livens
15:30 - 15:50	Break	
Mission calibration and data validation plans and philosophy for data quality assurance and uncertainty quantification (cont)		
15:50	Preliminary analysis for vicarious CAL/VAL site suitable for PRISMA mission	M. Musacchio
16:10	Amiaz Playa and Makhtesh Ramon, Southern Israel, as Vicarious Calibration Sites for Spectral Imaging Orbital Sensors	E. Ben Dor
16:30	Uncertainty Quantification for Calibration and Atmosphere to Enable Global Cross-Platform Spectroscopy	D. Thompson
16:50	Uncertainties for Pre- And Post-Launch Radiometric Calibration of Imaging Spectrometers for Multi-Sensor Applications	K. Thome
17:10	Leveraging in-situ observations for cal/val: opportunities and challenges	B. Evans
17.30-18.00	Discussion	
19:00	Workshop Dinner	

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Potential synergies with other current and future space-based systems		
08:30	Towards Seamless Multimission Aquatic Science Products	N. Pahlevan
08:50	Utilizing Orbital Spectroscopy Imagery for Carbon Cycle Science	E. Middleton
09:10	Surface Biology and Geology (SBG) Targeted Observables Application Working Group	J. Luvall
09:30	CHIME project: potential value-added products of hyperspectral mission in the "Agriculture & food security" and "Raw materials exploration" application domain	A. Taramelli
09:50	Wildfire detection with hyperspectral and current /future space-based systems	S. Amici
10:10	Considering Aquatic Remote Sensing within the SBG Mission Architecture Study	K. Turpie
10:30 - 11:00	Discussion	
11:00-11.20	Break	
11:20 - 13:00	Overall discussion, conclusions and future recommendations	