

# International School of Space Science

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Course on: **Frontiers of Space Science: from Solar Activity to NEOs**  
L'Aquila (Italy), April 18 – 22, 2011

**Monday, April 18<sup>th</sup>**

08.15-09.30 Registration

*From the Sun to small bodies of Solar System: an introduction*

**Chair: A. Celletti**

09.30-10:00      *Opening remarks (Director of ISSS, Space Academy Foundation)*

10.00-10.50      E. Flamini              The Solar System Exploration

10.50-11.40      E. Perozzi              Near Earth Objects: when near is far enough

11.40-12.00      *Coffee break*

12.00-12.50      R. Somma              Space Missions And NEOs

13.00-14.30      *Lunch*

**Chair: F. Berrilli**

14.30-15.20      P. Escoubet              New Frontier of European Space Science

15.20-16.10      D. Mueller              JHelioviewer - Open Source Software for Discovery in the  
Petabyte Age

16.10-17.00      M. Velli              Solar Probe+, NASA's First Mission to the Nearest Star

17.00-17.20      *Coffee break*

17.20-18.10      M. Velli              Solar Coronal Heating and Wind Acceleration:  
Measurements, Theories, Models

18.10-19.00      J. I. Lunine              The search for Earth-mass planets around other stars:  
why understanding solar activity matters!

20.00              *Dinner*

**Tuesday, April 19<sup>th</sup>**

*Solar Activity and Space Weather*

**Chair: F. Berrilli**

09.00-9.50	J. I. Lunine	Faint early Sun: Implications for Earth, Mars and Titan
9.50-10.40	I. Ermolli	The active sun
<u>10.40-11.10</u>	<u>Coffee break</u>	
11.10-12.00	F. Zuccarello	Emergence and evolution of solar magnetic field
12.00-12.50	G. Cauzzi	Dynamics of the solar atmosphere and explosive events

13.00 Lunch

**Chair: F. Zuccarello**

15.00-15.50	S. Cesare	The Role of the Space Missions in the Sun monitoring: from SOHO to Solar Orbiter
15.50-16.40	M. Romoli	The solar corona from Solar Orbiter: METIS coronagraph
<u>16.40-17.00</u>	<u>Coffee break</u>	
17.00-17.50	R. D'Amicis	The Solar Wind Analyser on board Solar Orbiter
17.50-19.00	Student presentations and free practice	

20.00 Dinner

**Wednesday, April 20<sup>th</sup>**

*(Solar Activity and Space Debris)*

**Chair: A. Milani**

09.00-09.50	F. Berrilli	Multiscale analysis of solar magnetic field
09.50-10.40	D. Del Moro	Solar spectropolarimetry with Fabry-Perot Interferometers
<u>10.40.-11.10</u>	<u>Coffee break</u>	
11.10-12.00	A. Rossi	Space debris (1)
12.00-12.50	A. Rossi	Space debris (2)

13.00 Lunch

15:00-19:00 Visit L'Aquila town

20.00 Dinner

### Thursday, April 21<sup>st</sup>

*Near Earth Objects*

#### **Chair: E. Perozzi**

09.00-10.40 E. Perozzi The NEO Segment of the ESA Space Situational Awareness Program

10.40-11.10 Coffee break

11.10-12.00 A. Celletti Orbit determination (1)

12.00-12.50 A. Celletti Orbit determination (2)

13.00 Lunch

#### **Chair: A. Celletti**

15.00-15.50 D. Izzo Trajectories to NEOs (1)

15.50-16.40 D. Izzo Trajectories to NEOs (2)

16.40-17:10 Coffee break

17.10-19.00 Student presentations and free practice

20.00 Dinner

### Friday, April 22<sup>nd</sup>

*Near Earth Objects and Space Weather*

#### **Chair: D. Izzo**

09.00-09.30 R. Destefanis Space Debris: Threat to orbiting Spacecraft & Mitigation Concepts

09.30-10.20 M. Casolino The two faces of cosmic rays: messengers of the galaxy and radiation hazard to space exploration

10.20-10.40 Coffee break

10.40-11.30	P. Francia	Solar wind and magnetosphere
11.30-12.20	C. Portelli	The SSA European scenario
12.20-12:30	F. Berrilli / U. Villante	Concluding remarks

13.00                      Lunch

**End of the Course**