



Workshop of the International Space Science Institute (ISSI)

From the Outer Heliosphere to the Local Bubble: Comparison of New Observations with Theory

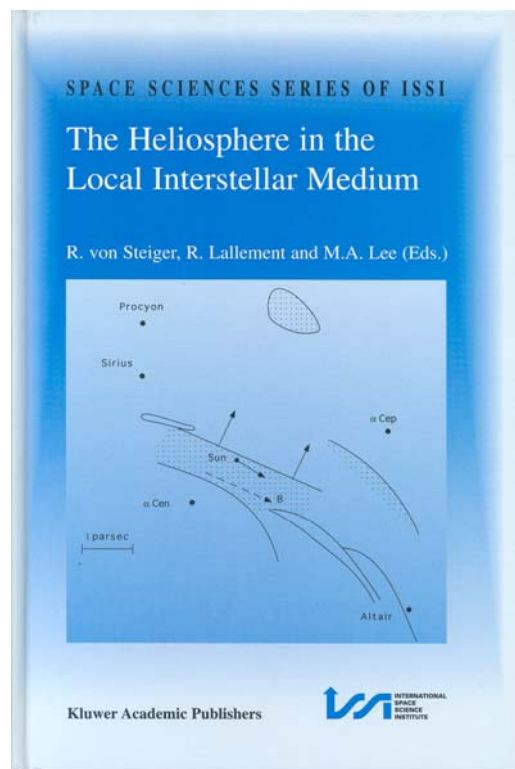
Bern, Switzerland, 15-19 October 2007

Convenors:

Jeffrey Linsky (Chair), Univ. of Colorado, Boulder, CO, USA
Dieter Breitschwerdt, Univ. of Vienna, Austria
Priscilla Frisch, Univ. of Chicago, IL, USA
Vlad Izmodenov, Moscow State Univ., Russia
Eberhard Möbius, Univ. of New Hampshire, Durham, NH, USA
Rudolf von Steiger, ISSI, Bern, Switzerland

Local organisation:

Brigitte Fasler and Andrea Fischer, ISSI



Cover of ISSI Volume 1 (1996)

List of Participants

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**From the Outer Heliosphere to the Local Bubble:
Comparison of New Observations with Theory**

	Monday 15-Oct-07		Tuesday 16-Oct-07		Wednesday 17-Oct-07		Thursday 18-Oct-07		Friday 19-Oct-07
Question	#6		#2		#3		#1		
Chair	von Steiger		Stone		Slavin		Möbius		Frisch
9:00-9:30	Linsky	9:00-9:45	Frisch	9:00-9:45	Jenkins	9:00-9:45	Breitschwerdt	9:00-9:25	Splinter #4
9:30-10:00	Richardson	9:45-10:15	Izmodenov	9:45-10:15	Koutroumpa	9:45-10:15	Spangler	9:25-9:50	Splinter #5
10:00-10:30	Jokipii							9:50-10:15	Splinter #6
								10:15-10:40	Splinter #7
10:30-11:00	Coffee	10:15-10:45	Coffee	10:15-10:45	Coffee	10:15-10:45	Coffee	10:40-11:10	Coffee
Chair	Jokipii		Izmodenov		Jenkins		Spangler		Opher
11:00-11:30	Balogh	10:45-11:15	Quémerais	10:45-11:15	Shelton	10:45-11:15	Snowden	11:10-11:55	Mueller
11:30-12:00	Florinski	11:15-11:45	Gloeckler	11:15-11:45	Welsh	11:15-11:45	Stanimirovic	11:55-12:40	Lallement
12:00-12:30	McComas	11:45-12:15	Bzowski			11:45-12:15	de Avillez		
12:30-2:00	Lunch	12:15-2:00	Lunch	11:45-2:00	Lunch	12:15-2:00	Lunch	12:40-2:00	Lunch
Question	#4		#5				#7		
Chair	Balogh		McComas				Lallement		Linsky
2:00-2:45	Stone	2:00-2:30	Slavin	2:00	Excursion	2:00-2:30	Opher	2:00-2:45	Fuchs
2:45-3:15	Wood	2:30-3:00	Redfield			2:30-3:00	Lazarian	2:45-3:30	Baranov
3:15-3:45	Pogorelov	3:00-3:30	Krüger					3:30-4:00	Möbius
3:45-4:15	Tea	3:30-4:00	Tea			3:00-3:30	Tea	4:00	adjourn
4:15-5:30	Splinters	4:00-4:30	Draine			3:30-3:55	Splinter #1		
		4:30-5:30	Splinters			3:55-4:20	Splinter #2		
5:30-	Welcome Drink					4:20-4:45	Splinter #3		
				6:30-	Dinner				

Questions:

- #1 What physical processes drive the multiphase interstellar medium in the Local Bubble?
- #2 How is the ISM inside the heliosphere related to the ISM outside the heliosphere?
- #3 What are the energy and pressure balances in the Local Bubble?
- #4 What are the three-dimensional shape and structure of the dynamic heliosphere?
- #5 What are the origin and physical properties of the clump of very local ISM?
- #6 What are the dominant physical processes in the termination shock and the inner heliosheath?
- #7 What are the roles that magnetic fields play in the Local Bubble and its constituents?

Legend:
Introductory
Regular
Splinter
Big Picture
Open/Close

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ISSI, Bern, 15-19 October 2007

Monday, 15 October 2007

08:00-09:00	Registration		
09:00-09:15	Rudolf von Steiger	Welcome / About ISSI	Chair: von Steiger
09:15-09:30	Jeff Linsky	Workshop introduction	
Question #6: What are the dominant physical processes in the termination shock and the inner heliosheath?			
09:30-10:00	John Richardson	The distant solar wind	
10:00-10:30	Randy Jokipii	Magnetic field structure in the heliosheath: theory	Jokipii
10:30-11:00	Coffee		
11:00-11:30	André Balogh	Magnetic field structure in the heliosphere: observations	
11:30-12:00	Vladimir Florinski	Pickup ion acceleration and evolution in the heliosheath and termination shock	
12:00-12:30	Dave McComas	Energetic Neutral Atoms imaging of the inner heliosheath	Balogh
12:30-14:00	Lunch		
Question #4: What are the three dimensional shape and structure of the dynamic heliosphere?			
14:00-14:45	Ed Stone	What are the three dimensional shape and structure of the dynamic heliosphere?	
14:45-15:15	Brian Wood	Constraints on the structure of the heliosphere interface based on Lyman-alpha absorption spectra	
15:15-15:45	Nick Pogorelov	Influence of the interstellar magnetic field and neutrals on the shape of the outer heliosphere	
15:45-16:15	Tea		
16:15-17:30		Splinter Sessions #1 - #7	
17:30-	Welcome drink		

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Tuesday, 16 October 2007

Question #2: How is the ISM inside the heliosphere related to the ISM outside the heliosphere?

09:00-09:45	Priscilla Frisch	How is the ISM inside the heliosphere related to the ISM outside the heliosphere?	Chair: Stone
09:45-10:30	Vlad Izmodenov	Inferences on the local interstellar parameters from observations inside the heliosphere	
10:30-11:00	<i>Coffee</i>		
11:00-11:30	Eric Quémerais	Backscattered Lyman-alpha observations from SOHO/SWAN and the Voyagers	Izmodenov
11:30-12:00	George Gloeckler	Ulysses and ACE observations of pickup ions and their interpretation: observations	
12:00-12:30	Maciej Bzowski	Ulysses and ACE observations of pickup ions and their interpretation: theory	
12:30-14:00	<i>Lunch</i>		
Question #5: What are the origin and physical properties of the clump of very local ISM?			McComas
14:00-14:30	Jonathan Slavin	What are the origin and physical properties of the clump of very local ISM? - theory	
14:30-15:00	Seth Redfield	What are the origin and physical properties of the clump of very local ISM? - observations	
15:00-15:30	Harald Krüger	Dust inside and outside the heliosphere	
15:30-16:00	<i>Tea</i>		
16:00-16:30	Bruce Draine	Theoretical perspectives on dust inside and outside of the heliosphere	
16:30-17:30		Splinter Sessions #1 - #7	

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Wednesday, 17 October 2007

Question #3: What are the energy and pressure balances in the Local Bubble?

09:00-09:45	Ed Jenkins	What are the energy and pressure balances in the Local Bubble?	Chair: Slavin
09:45-10:15	Dimitra Koutroumpa	Charge transfer induced soft X-ray emission from the heliosheath	
10:15-10:45	Coffee		
10:45-11:15	Robin Shelton	Is there hot gas in the Local Bubble and what are its properties?	Jenkins
11:15-11:45	Barry Welsh	Interrelationships of hot and warm gas in the very local ISM	
11:45-14:00	Lunch		
14:00	Excursion to Spiez on the Lake of Thun, visit of the 13 th century castle		
18:30	Dinner at Hotel Belvedere, Spiez		
22:30 ca.	Return to Bern		



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ISSI, Bern, 15-19 October 2007

Thursday, 18 October 2007

Question #1: What physical processes drive the multiphase interstellar medium in the Local Bubble?

09:00-09:45	Dietrich Breitschwerdt (rep. by Miguel de Avillez)	What physical processes drive the multiphase interstellar medium in the Local Bubble?	Chair: Möbius
09:45-10:15	Steven Spangler	Turbulence in the local ISM and Local Bubble	
10:15-10:45	Coffee		
10:45-11:15	Steve Snowden	What can be learned from X-ray spectroscopy concerning hot gas in the Local Bubble and charge exchange processes?	Spangler
11:15-11:45	Snezana Stanimirovic	Ultrascale structure in the Local Bubble	
11:45-12:15	Miguel de Avillez	Stability of interstellar clouds in the Local Bubble	
12:15-14:00	Lunch		

Question #7: What are the roles that magnetic fields play in the Local Bubble and its constituents?

14:00-14:30	Merav Opher	Role of magnetic fields in shaping the three dimensional models of the heliosphere	Lallement
14:30-15:00	Alex Lazarian	Magnetohydrodynamic turbulence and its effects on the interstellar medium	
15:00-15:30	Tea		
15:30-15:55		Splinter report #1	
15:55-16:20		Splinter report #2	
16:20-16:45		Splinter report #3	

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Friday, 19 October 2007

09:00-09:25		Splinter report #4	Chair: Frisch
09:25-09:50		Splinter report #5	
09:50-10:15		Splinter report #6	
10:15-10:40		Splinter report #7	
10:40-11:10	Coffee		Opher
11:10-11:55	Hans-Reinhard Mueller	The heliosphere in time	
11:55-12:40	Rosine Lallement	Origin and Evolution of the Local Bubble	
12:40-14:00	Lunch		Linsky
14:00-14:45	Burkhard Fuchs	Beyond the Local Bubble	
14:45-15:30	Vladimir Baranov	Challenges in modeling the heliospheric/ISM interface	
15:30-16:00	Eberhard Möbius	Workshop summary	