

13th International Workshop on Laser Ranging “Toward Millimeter Accuracy”

Agenda

Thursday, October 03, 2002

09:00 17:00 ILRS Analysis Working Group Meeting, HTSI, Lanham, MD R. Noomen

Friday, October 04, 2002

09:00 17:00 ILRS Analysis Working Group Meeting, HTSI, Lanham, MD R. Noomen

Sunday, October 06, 2002

08:30 17:00 Time available for Working Group Meetings

16:00 20:00 Registration at Hyatt Regency

19:00 21:00 Meeting of the Program Committee to finalize the program M. Pearlman

Monday, October 07, 2002

07:00 09:00 On-Site Registration at Hyatt Regency

09:00 09:45 Welcome

John Degnan, NASA Goddard Space Flight Center
Al Diaz, Director, Goddard Space Flight Center
Mike Pearlman, Harvard-Smithsonian Center for Astrophysics
Ted Maxwell, Associate Director, Smithsonian National Air and Space Museum

09:45 12:05 Scientific Achievements, Applications, and Future Requirements M. Pearlman,
J. Degnan

09:45 10:05 SLR Contribution to the International Terrestrial Reference Frame (Invited) Z. Altamimi

10:05 10:25 Time-Variable Gravity Analysis Using Satellite-Laser-Ranging as a Tool
for Observing Long-Term Changes in the Earth's Systems (Invited) C. Cox

10:25 10:45 Break

10:45 10:50 Workshop Logistics M. Pearlman

10:50 11:10 The Development of NASA Gravity Field Models and their Dependence on
SLR (Invited) F. Lemoine

11:10 11:25 Evaluation of Potential Systematic Bias in GNSS Orbital Solutions G. Appleby

11:25 11:45 Contributions of SLR to the Success of Satellite Altimetry Missions
(Invited) R. Scharroo

11:45 12:05 SLR and the CHAMP Gravity Field Mission (Invited) L. Grunwaldt

12:05 12:30 Group Photo in Hyatt Regency lobby

12:30 14:00 Lunch

Monday, October 07, 2002 *(continued)*

14:00	15:30	Scientific Achievements, Applications, and Future Requirements	R. Noomen, S. Klosko
14:00	14:20	The SLR Contribution to Precision Orbit Determination in the GPS Era	S. Luthcke
14:20	14:40	Prospects for an Improved Lense-Thirring Test with SLR and the GRACE Gravity Mission (Invited)	J. Ries
14:40	15:00	Lunar Geophysics, Geodesy, and Dynamics (Invited)	J. Dickey
15:00	15:20	Seasonal Changes in the Icecaps of Mars from Laser Altimetry and Gravity	D. Smith
15:20	15:40	Future Interplanetary Laser Ranging; Science Goals and Methods (Invited)	K. Nordvedt
<i>15:40</i>	<i>15:55</i>	<i>Break</i>	
15:55	17:45	Scientific Achievements, Applications, and Future Requirements	R. Noomen, S. Klosko
15:55	16:15	Geophysical Applications of SLR Tidal Estimates (Invited)	J. Wahr
16:15	16:35	Laser Ranging Contributions to Monitoring and Interpreting Earth Orientation Changes (Invited)	R. Gross
16:35	16:55	Monitoring the Origin of the TRF with Space Geodetic Techniques (Invited)	E. Pavlis
16:55	17:15	Absolute Earth Scale from SLR Measurements (Invited)	P. Dunn
17:15	17:30	First Results of the French Transportable Laser Ranging Station during the 2002 Corsica Campaign for the JASON-1 Calibration and Validation Experiment	J. Nicolas
17:30	17:45	Preliminary Orbit Determination of GRACE Satellites using Laser Ranging Data	J. Zielinski
<i>18:00</i>	<i>19:30</i>	<i>Reception at Hyatt Regency</i>	
19:30	21:00	Networks and Engineering Working Group Meeting	W. Gurtner
21:00	22:30	Prediction Format Study Group Meeting	R. Ricklefs

Tuesday, October 08, 2002

08:30	09:30	Laser Technology Development	K. Hamal, H. Donovan
08:30	08:45	Lasers for Multiwavelength Satellite Laser Ranging	K. Hamal
08:45	09:00	Kilohertz Laser Ranging at Graz	G. Kirchner
09:00	09:15	High-Power, Short-Pulse Microlaser - Power Amplifier System	P. Moulton
09:15	09:30	Mechanical measurement of laser pulse duration	J.-L. Oneto
09:30	10:15	Improved or Upgraded Systems – Poster Summaries (one viewgraph/three minutes per paper)	F. Pierron, Y. Fumin
		SLR2000 Software: Current Test Results and Recent Developments	J. McGarry
		McDonald Ranging: 30 Years and Still Going	J. Ries
		Replacement of the LURE Telescope Controller Using COTS Components Using Commercial Off-The-Shelf Components	D. O’Gara
		System Stability Improvement of Changchun SLR System	Y. Zhao
		Improving SALRO Accuracy	A. Azzeer
		Ultra mobile station FTLRS: Software Control	M. Pierron
		The New MLRS Encoder System: Progress Report	J. Wiant

Tuesday, October 08, 2002 (continued)

09:30	10:15	Improved or Upgraded Systems – Poster Summaries (continued) (one viewgraph/three minutes per paper)	F. Pierron, Y. Fumin
		Improvements of the French Transportable Laser Ranging Station to high accuracy level	F. Pierron
		Upgrading of the Simeiz-1873 SLR Station	S. Filikov
		First Laser Ranging Results of the new Potsdam SLR System	L. Grunwaldt
		System Upgrades of the NASA SLR Network	D. Carter
		Upgrades of Shanghai Satellite Laser Ranging Station	Y. Fumin
		NASA SLR Network MCP PMT Upgrade	H. Donovan
		GUTS – A New SLR System for Japan	T. Oldham
		Integration of 1.5m Telescope and Ranging System in CRL	H. Kunimori
<i>10:15</i>	<i>11:00</i>	<i>Break and Poster Viewing</i>	
11:00	12:20	Timing Devices	E. Samain, P. Gibbs
11:00	11:15	ILRS Timing Devices: Specifications, Error Analysis, BEST Calibration Practices	V. Husson
11:15	11:30	Range comparison results for various EUROLAS SR timers	P. Gibbs
11:30	11:45	Counter Calibrations at Zimmerwald	W. Gurtner
11:45	12:00	A010 Family of Time interval Counters Adapted to SLR Applications	K. Lapushka
12:00	12:15	An ultra stable event timer	E. Samain
12:15	12:20	Operational Performance of GPS Steered Rubidium Oscillators (Poster Summary)	L. Stewart
<i>12:20</i>	<i>14:00</i>	<i>Lunch</i>	
14:00	15:30	Detectors and Optical Chain Components	G. Kirchner L. Grunwaldt
14:00	14:15	New Detection Package at Graz	G. Kirchner
14:15	14:30	Time walk compensation of a SPAD with linear photo detection	E. Samain
14:30	14:45	The advantages of Avalanche Photodiode (APD) arrays in laser ranging applications	J. Strasburg
14:45	15:00	SPAD Detector Package for Space Born Applications	I. Prochazka
15:00	15:15	Characterization of a Microchannel Plate Photomultiplier Tube with a High Sensitivity GaAs Photocathode	J. Martin
15:15	15:30	Testing of MCP PMTS: Use of Fiber Optic Coupled Gbps Laser Drivers to Create Ersatz Laser Return Pulses	T. Cuff
<i>15:30</i>	<i>15:50</i>	<i>Break</i>	
15:50	18:00	Automation and Control Systems	J. McGarry, F. Koidl
15:50	16:10	Berne/Herstmonceux Timebias Service	R. Wood
16:10	16:30	Intelligent Scheduler, Prioritize on the Fly	C. Clarke
16:30	16:35	Incorporation of GPS Data into HTSI Prediction Cycle to Support the ICESat Mission (Poster Summary)	J. Horvath
16:35	16:55	Improvements in the Automation of the Zimmerwald SLR Station	W. Gurtner
16:55	17:15	Automated Operational Software at the Shanghai SLR Station	Z. Zhang
17:15	17:20	Sun Avoidance Software (Poster Summary)	Z. Zhang

Tuesday, October 08, 2002 *(continued)*

15:50	18:00	Automation and Control Systems <i>(continued)</i>	J. McGarry, F. Koidl
17:20	17:40	Infrared Sky Camera – The Production Model	T. Mallama
17:40	18:00	SLR2000: Closed Loop Tracking with a Photon-Counting Quadrant Detector	J. McGarry
18:00	19:30	Data Formats and Procedures Working Group Meeting	W. Seemueller
19:30	21:00	Missions Working Group Meeting	S. Wetzel

Wednesday, October 09, 2002

08:30	08:45	Space Geodesy Overview (Invited)	J. LaBrecque
08:45	09:45	Lunar Laser Ranging	P. Shelus, J.F. Mangin
08:45	09:00	Recent contributions to LLR analysis	P. Shelus
09:00	09:15	The OCA LLR Station: An Update	G. Vigouroux
09:15	09:30	APOLLO: Multiplexed Lunar Laser Ranging	T. Murphy
09:30	09:45	LLR Developments at Mount Stromlo: Towards Millimeter Accuracy	J. Luck
09:45	10:15	<i>Break and Poster Viewing</i>	
10:15	12:00	Station Performance Evaluation	C. Luceri, R. Wood
10:15	10:30	MyStationPerformance.COM	V. Husson
10:30	10:45	The Precise Data Processing in MCC Analysis Center	V. Glotov
10:45	11:00	The stability of the SLR stations coordinates determined from monthly arcs of LAGEOS-1 and LAGEOS-2 laser ranging in 1999-2001	S. Schillak
11:00	11:15	Range Bias vs. Applied System Delay	T. Otsubo
11:15	11:30	Absolute and Relative Range Bias Detection Capabilities	V. Husson
11:30	11:45	Status of the KACST SLR Program – Past, Present and Future	T. Al-Saud
11:45	12:00	Results of the triple laser ranging collocation experiment at the Grasse observatory, France (September - November 2001)	J. Nicolas
12:00	15:00	<i>Lunch and Free Time</i>	
12:00	15:00	ILRS Governing Board Meeting	M. Pearlman
13:30	15:00	Local Surveys for SLR: A Primer (splinter session)	J. Long
15:00	16:30	System Calibration Techniques	I. Prochazka, U. Schreiber
15:00	15:15	Use of free surface of liquids in interferometric methods: application to split corner cubes	J.-L. Oneto
15:15	15:30	Portable Calibration Standard Mission Review	K. Hamal
15:30	15:45	Portable Calibration Standard Capabilities	I. Prochazka
15:45	16:00	High accuracy short range laser rangefinder for system calibration and installation	P. Sperber
16:00	16:15	An experimental common detector, coaxial Cassegrain laser telescope and its calibration	M. Paunonen
16:15	16:20	Local Surveys at Goddard	J. Long
16:20	16:25	Local Survey Relationships to System Calibration and Bias Identification	P. Stevens

Wednesday, October 09, 2002 *(continued)*

16:30	17:30	Station Operational Issues <i>(continued)</i>	W. Gurtner, V. Husson
16:30	16:40	Creating a Consolidated Laser Ranging Prediction Format	R. Ricklefs
16:40	16:55	Operational Issues from the Stations	W. Gurtner
16:55	17:10	Operational Issues from an ILRS Central Bureau Perspective	V. Husson
17:10	17:20	Operational Issues from the Viewpoint of the SLR Data Analysis	G. Appleby
17:20	17:30	General Discussion	W. Gurtner
18:00	22:00	<i>Excursion to GGAO for tour and barbeque hosted by HTSI</i>	

Thursday, October 10, 2002

08:30	10:30	Target Design, Signatures, and Biases	G. Appleby, V. Vasiliev
08:30	08:45	Retroreflector Array Transfer Functions	D. Arnold
08:45	09:00	Difference of LAGEOS satellite response from raw data analysis of the collocation experiment between the Grasse Satellite and Lunar Laser Ranging stations	J. Nicolas
09:00	09:15	Recovery of target response function for centre-of-mass corrections of spherical satellites	T. Otsubo
09:15	09:30	International experiment in space for investigation of a novel-type laser retroreflector	V. Vasiliev
09:30	09:45	Development and on-orbit performance of moderate-cost spherical retroreflector arrays for the STARSHINE program	R. Kessel
09:45	10:00	Reflector arrangement on H2A-LRE satellite	T. Otsubo
10:00	10:15	The Atmospheric Neutral Density Experiment: a Mission Overview	A. Nicholas
10:15	10:20	Velocity Aberration (Poster Summary)	D. Arnold
10:20	10:25	Design of a laser retro-reflector for the first satellite ranging mission in S. Korea on an elliptical orbit (Poster Summary)	S. Kim
10:25	10:30	Laser Retroreflector Array (LARA) for IRS Mission (Poster Summary) LAGEOS-2 spin rate and orientation (Poster Summary)	K. Elango R. Wood
10:30	10:50	<i>Break</i>	
10:50	13:10	Atmospheric Correction and Multiwavelength Ranging	S. Riepl, E. Pavlis
10:50	11:05	Validation of Mapping Functions	S. Riepl
11:05	11:20	Zimmerwald Dual-wavelength Operation: First Experiences	W. Gurtner
11:20	11:35	Two-color laser ranging with the MLRO system	G. Bianco
11:35	11:50	Atmospheric Refraction at Optical Wavelengths: Problems and Solutions	E. Pavlis
11:50	11:55	Preliminary estimation of the atmospheric nonlinear frequency dispersion and absorption effects on the pulse SLR accuracy (Poster Summary)	Y. Galkin
11:55	12:10	Wavelength Dependence of Range Correction	D. Arnold
12:10	12:25	Atmospheric Contribution to the Laser Ranging Jitter	I. Prochazka
12:25	12:40	Modification of Laser Ranging Equation	X. Yaoheng
12:40	12:55	A Database of Atmospheric Refractivities from GPS Radio Occultations	M. de la Torre Juárez
12:55	13:10	Biaxial Rayleigh- and Raman-LIDAR for applications in atmospheric sounding and SLR	U. Schreiber

Thursday, October 10, 2002 *(continued)*

13:10	14:45	Lunch	
13:10	14:45	WPLTN Meeting	H. Kunimori
14:45	15:45	Advanced Systems and Techniques	B. Greene, T. Murphy
14:45	15:00	Millimeter Ranging Accuracy – The Bottleneck	I. Prochazka
15:00	15:15	SLR2000: Progress and Future Applications	J. Degnan
15:15	15:30	Optimization of the Correlation Range Receiver Parameters in SLR2000	J. Degnan
15:30	15:45	Overview of Data for the SLR2000 Tracking Mount Performance Testing	D. Patterson
15:45	16:15	Break	
16:15	17:15	Advanced Systems and Techniques	B. Greene, T. Murphy
16:15	16:30	Laser Tracking of Space Debris	B. Greene
16:30	16:45	Installing TIGO in Concepcion	S. Riepl
16:45	17:00	The MLRO Project: a Status Report	G. Bianco
17:00	17:05	Photon-Counting Airborne Microlaser Altimeter (Poster Summary)	J. Degnan
17:05	17:10	Time Transfer by Laser Link (Poster Summary)	E. Samain
17:10	17:15	A Satellite Laser Ranging System Based on a Micro-Chip Laser (Poster Summary)	H. Kunimori
19:00	22:00	<i>Banquet in The Great Hall, Smithsonian Castle Building, Smithsonian Institution</i>	
		<i>Speakers:</i>	
		<i>Mr. Richard Stamm, Keeper of the Castle Collection, Smithsonian Institution</i>	
		<i>Dr. Henry Plotkin, UMBC Center for Advanced Studies in Photonics Research</i>	
		<i>Dr. Mary Cleave, NASA Deputy Administrator for Earth Sciences and Former Astronaut</i>	

Friday, October 11, 2002

08:30	10:30	ILRS General Assembly	M. Pearlman
10:30	10:50	Break	
10:50	12:00	ILRS General Assembly	M. Pearlman
12:00	13:30	Workshop Summary/Resolution/Closure	