Seventh General Assembly of the ILRS
April 25, 2002
Nice, France

Presentation Material

Upcoming Missions

ADEOS-II Mission status report

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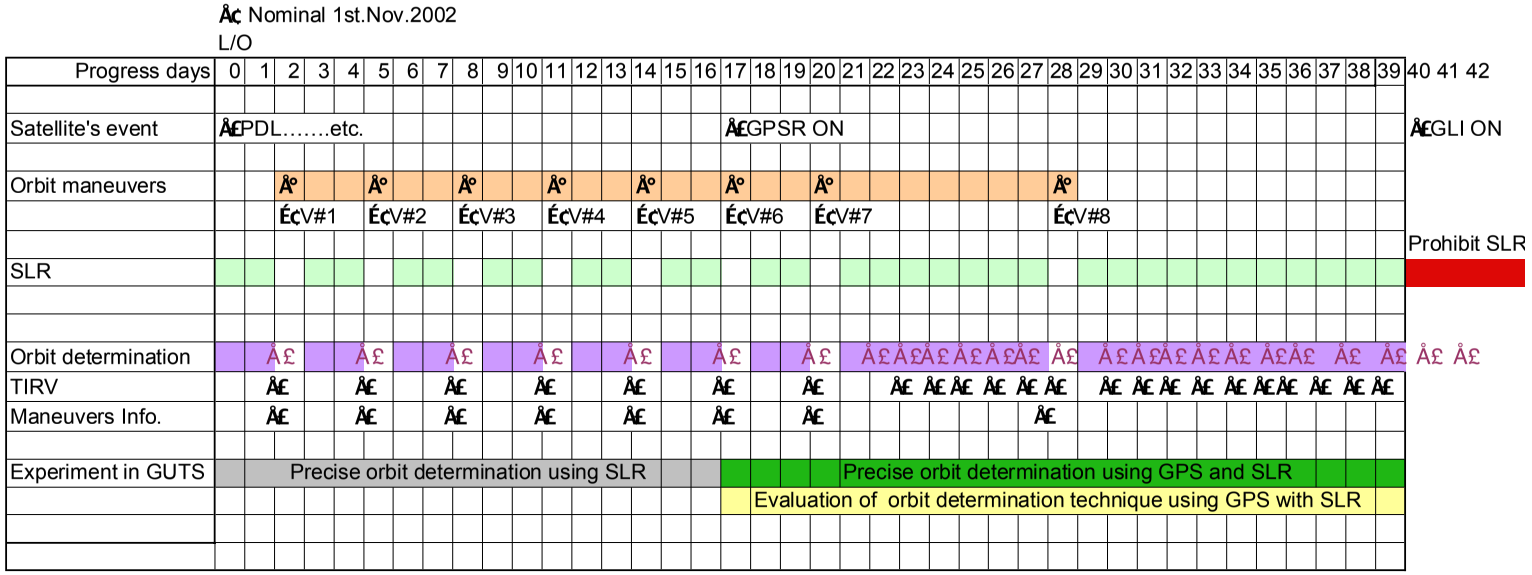
NASDA-ILRS-0006

The Latest Information of ADEOS-II

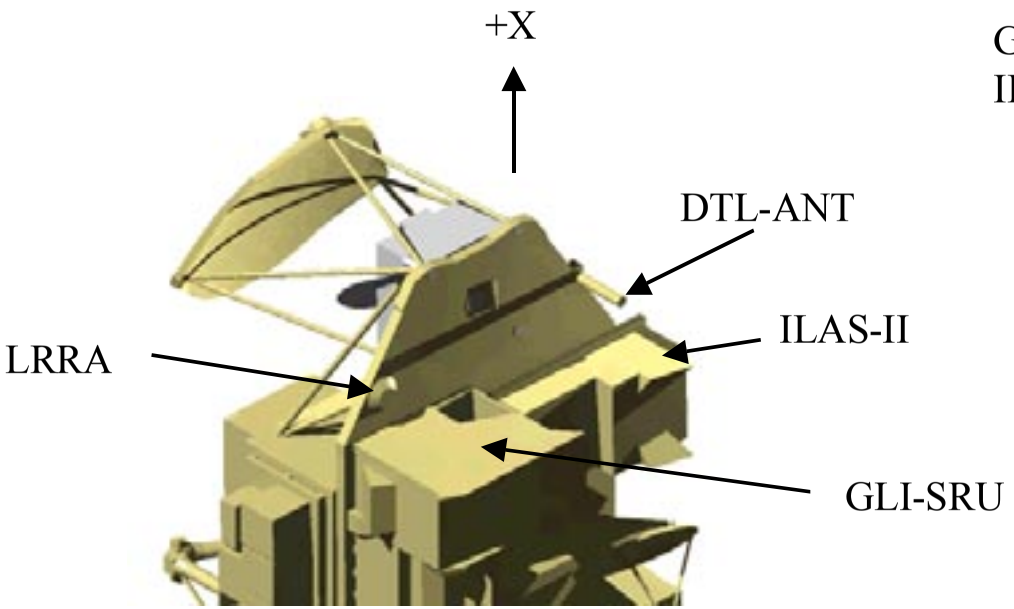
- *Launch vehicle : H-IIA*
- *Launch site : Tanegashima (Southern Island of Japan)*
- *Launch Window (Plan) : 1st Nov. 2002 to 30th Nov.2002*
  Launch time : 01h30m+/-15min(UT)
- *Preliminary orbit maneuvers (Plan) :*



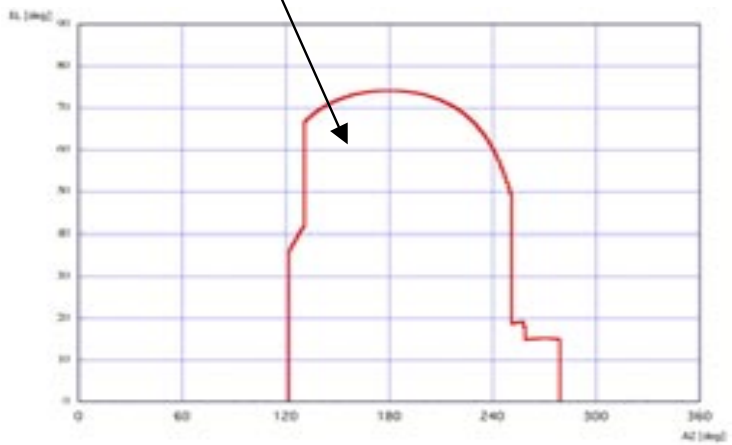
Background

As a result of detail analysis by ADEOS-II satellite side, it turned out that there were some constrain area caused by GLI (Global Imager: Optical sensor) in ADEOS-II SLR operation.

Below figure shows the restriction area that I have reported at Matera meeting(Nov.2000).

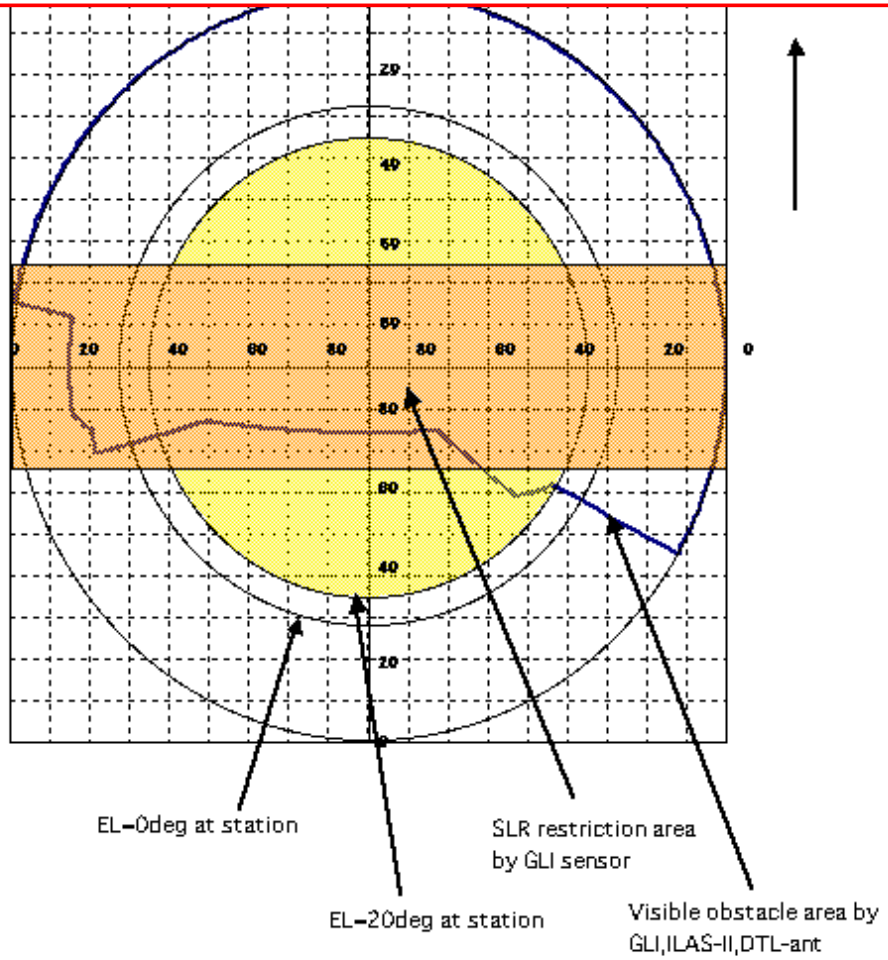


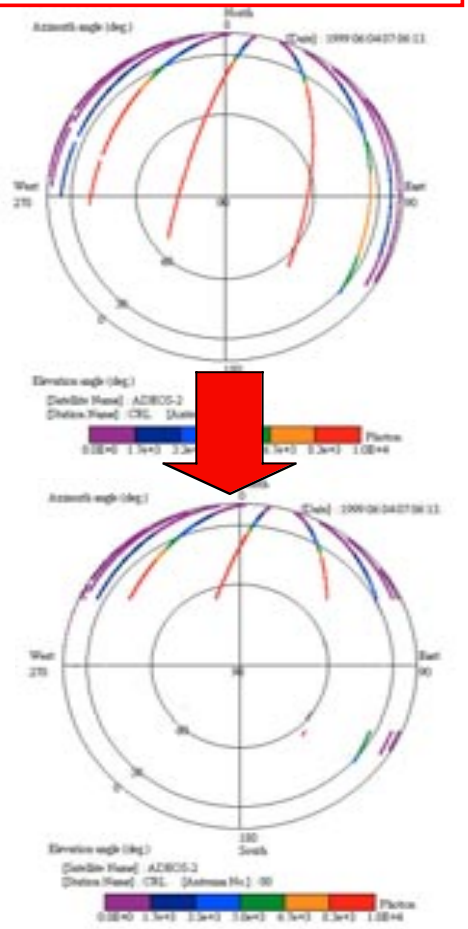
Geometrical restriction by GLI-SRU, ILAS-II, DTL-ANT



The Latest Information of restriction area in the ADEOS-II tracking

If SLR laser beam enter GLI optics, there is the possibility that SLR beam damage GLI optics.
Considering GLI restriction, ADEOS-II SLR restriction area is shown below.

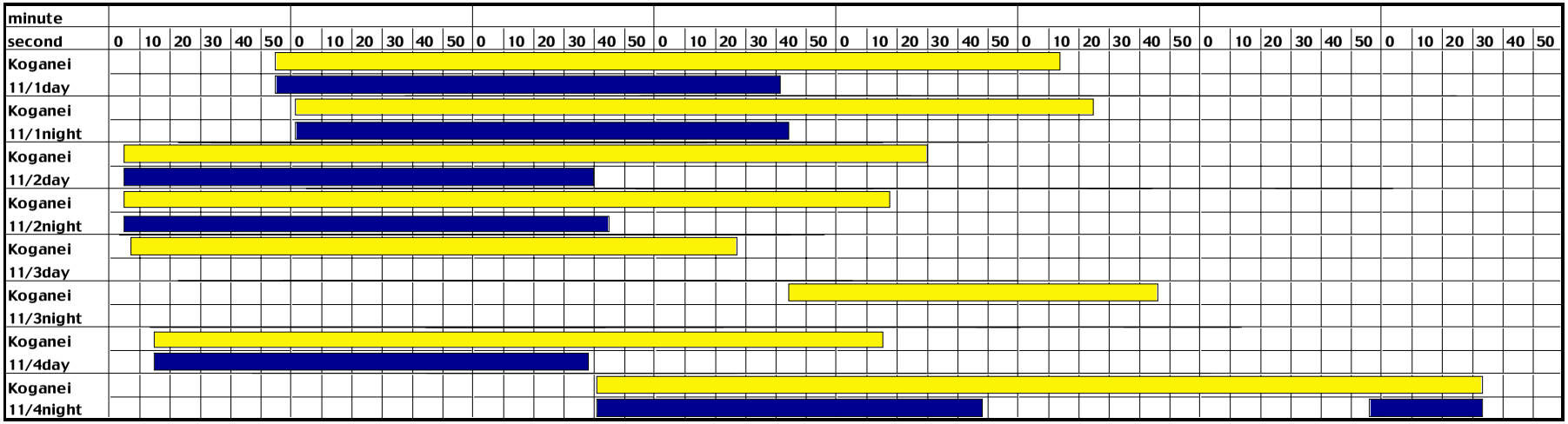




Analysis result of satellite visibility analysis

Variation of satellite(LRRA) visibility

Station visibility becomes short or extinct



ADEOS-II SLR tracking plan

NASDA would like to propose the following operation plan

- *Launch Phase:*

40 days tracking campaign after launch
(GLI is under safety mode avoiding any signal through its aperture.)

- *Routine Phase:*

After launch phase, GLI will starts its observation and switch over to the routine operation through the mission check out.
All station must be suspended laser ranging to the ADEOS-II from this phase, and also NASDA will interrupt deliver IRV set to the station at once.

If we need more SLR data in routine phase, we request to the specified station as an partial campaign. We under examine a method for concrete operation.

ICESat Status

- Laser altimetry to detect changes in polar ice sheets; land mapping and atmospheric science
- Geoscience Laser Altimeter (GLAS) testing at Goddard:
  - Acoustic complete (early April)
  - Vibration complete (mid-April)
  - Thermal/vacuum (May)
  - Ship to Ball Aerospace (June)
  - Laser/telescope boresight shifts have been concern (backup alignment mechanism being considered for inclusion)
- At Ball Aerospace, GLAS will be mounted to spacecraft bus, with additional testing of the observatory (GLAS + bus)
- Launch from Vandenberg on Delta-2 in December, 2002

ICESat Operations

- Two BlackJack GPS receivers
- GFO-like LRA
- First 6 months after launch
  - First month: spacecraft commissioning
  - Second month: GLAS commissioning
  - 120 days+ for verification, calibration and validation
  - Intense SLR tracking essential to validate the orbit determination accuracy
- After initial 6 months, normal SLR tracking
- Ground track repeat requires approximately weekly maneuvers
- CSR in collaboration with HTSI will provide tracking predicts

PLAN FOR THE
2001 ILRS ANNUAL REPORT

- **Be Concise**
- **One Version for Paper and Web Reports**
- **Liberal use of Web Site Links and References**
- **Fast Turnaround**
- **Focus on Progress during the Year and Future Plans**
- **Contributions due May 31, 2002**

2001 ILRS Annual Report
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  - 7.1.1.3 Mission Control Center (Vladimir Glotov) — 2 pages
- 7.1.3 Associate Analysis Center (as submitted) — 1 pages each

7.2 Lunar Laser Ranging (Peter Shelus)
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Data Products Provided, Current Activities, Future Plans

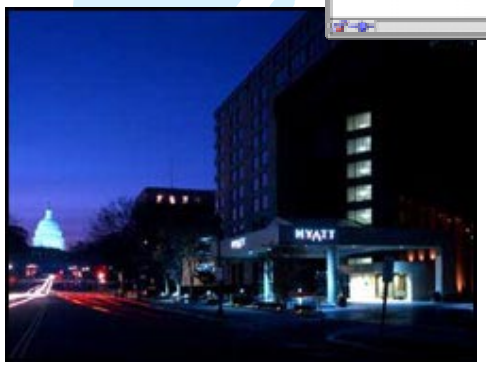
Section 8 – ILRS Information (Van Husson and Carey Noll)

ILRS Terms of Reference
ILRS Website Reference Card
ILRS Components
ILRS Participating Institutions
ILRS Associates
List of Acronyms
Use links to existing web pages

13th Workshop on Laser Ranging

"Toward Millimeter Accuracy"

- Hyatt Regency Capital Hill, Washington, D.C.
- October 07-11, 2002
- http://cddisa.gsfc.nasa.gov/lw13
- Program Committee:
  - Giuseppe Bianco, ASI
  - John Degnan, NASA GSFC
  - Yang Fumin, Shanghai Observatory/Academia Sinica
  - Ben Greene, EOS Pty. Ltd
  - Werner Gurtner, AIUB
  - Hiroo Kunimori, CRL
  - Ron Noomen, TU Delft
  - Michael Pearlman, Harvard-Smithsonian
  - Ulrich Schreiber, TU Munich
  - Peter Shelus, U. of Texas
  - Suriya Tatevian, RSA
- Local Organizers:
  - John Degnan
  - Mike Pearlman
  - Carey Noll



Program Topics

- Overview of Space Geodesy Techniques
- Scientific Achievements, Applications, and Future Requirements
- Lunar Laser Ranging
- Improved or Upgraded Systems
- Station Performance Evaluation
- Station Operational Issues
- Target Design, Signatures, and Biases
- Timing Devices (G. Kirchner and V. Vassiliev)
- Calibration
- Atmospheric Correction and Multiwavelength Ranging
- Detectors and Optical Chain Components
- Laser Technology Development
- Automation and Control Systems
- Advanced Systems and Techniques
- New Ranging Systems Applications