ILRS Satellite Questionnaire 2001
Satellite Requirements

1. **What applications of SLR data are underway at your center?**

2. **Which satellites are you currently using in your analysis work?**

3. **What are the applications for each satellite (station position/motion, gravity field, EOP, POD (specific missions), etc?**

4. **Are you receiving sufficient data volume?**

5. **Are you receiving sufficient data coverage?**

6. **Are the data of sufficient accuracy for your applications?**

7. **What other satellites do you plan to use in the future?**

8. **What do you need that you are not getting?**

9. **What other comments or suggestions do you have regarding the ILRS data?**

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Centers that Responded to the Questionnaire

SLR Analysis Centers:

CSR (USA)	DUT/DEOS(Netherlands)
MCC (Russia)	

SLR Associate Analysis Centers:

AA (Russia)	Raytheon (USA)	NDE (Norway)
NERC (UK)	ESA/ESOC (Europe)	BKG (Germany)
AIUB (Switzerland)	DGFI (Germany)	INASAN (Russia)
AUSLIG (Australia)	GSFC/Lemoine (USA)	GSFC/Pavlis (USA)

LLR Analysis Centers:

JPL (USA)	IAPG (Germany)	Utexas (USA)

Areas of Investigation

Earth Orientation Parameters (EOP)

Reference Frame (Gm, center of mass, etc.)

Gravity Field (static and time varying)

Comparison with other techniques

Orbit development

Combination/Intercomparison

Station position/motion

POD (mission specific)

Q/C of stations

Spacecraft models

Gravitational physics tests

Lunar science

EOP

Gravitational physics tests

Tidal accelerations

Relativity

Lunar gravity field

Station position/motion

Lunar ephemeris

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ILRS Satellite Questionnaire 2001 on Satellite Requirements

Satellite	Number of Users
CHAMP	3
GFO-1	2
ERS-2	7
TOPEX/Poseidon	6
Starlette	7
Westpac	4
Stella	7
Be-C	2
Ajisai	5
LAGEOS	12
GLONASS	5
GPS	6
Etalon	5
LLR Arrays	3

Questionnaire Responses

Data Volume:

Not enough LAGEOS data
Weekend and holiday coverage a problem on TOPEX, CHAMP and ERS-2 (2)
Data too sparse on CHAMP for verification (2)
Insufficient data on GPS, GLONASS, and Etalon for independent orbits and parameter estimation (5)
Not enough data on low satellites in general
Not enough data on GFO-1

Data Coverage:

Coverage weak in Southern Hemisphere (9)
Need better performance from Arequipa and Tahiti

Questionnaire Responses - continued

Data Accuracy:

Too many stations exceed the 2-cm stability criteria; criteria should be tightened to 1 cm.
Too many weak stations, especially in China
Too many stations with unstable biases; too much variation in the data
Still room for improvement in calibration and data screening
ILRS should produce screened NP data sets; perhaps standardized screening package
Avoid collecting marginal data

Data is getting better from "good stations"
Data accuracy is sufficient (7)

Questionnaire Responses - continued

Suggestions and Comments

More standardized products (EOP, station position/motion, orbits, etc.)
Better characterization of satellites
Stella and Westpac are sunsynchronous; do we need Westpac for gravity field?
Speed up EOP results
Better long term predictions on LAGEOS and Etalon
A complete data set should be available right away; avoid archival differences
Does it make sense to try to track all of the satellites on the current list?
We need complete station descriptions with well-documented, updated eccentricities (2)
We need a file of ocean loading parameters in the ILRS format for all stations
Consider some other strategies for improving tracking effectiveness (MCC)

Lunar Comments:

More data; improved new and full moon coverage; more Lunakhod 2 coverage
More lunar stations with better latitude coverage
More lunar reflectors
Data accuracy is fine

Other Comments:

Data quality and speed of delivery greatly improved over the last year
Keep up the good work; continue improving the network
You are doing a great job
Appreciate the improved accuracy over the past few years


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