

PDF Page No.	General Information							Evaluating the SLR School								
	What was your role in the SLR School?	Do you have any experience with SLR or with other space geodesy techniques?	Are you actively involved in ILRS activities?	What is your current position?	How did you find out about the SLR School?	Did you attend all sessions of the SLR School?	Why did you attend the SLR School?	In general, was the SLR School informative?	What was your familiarity with SLR BEFORE the SLR School?	How would you rate your familiarity with SLR AFTER attending the SLR School?	Overall, how would you rate the general quality of the SLR School?	Was one day long enough?	Would you be interested in attending a more in-depth 2-3 day school?	What did you like best about the SLR School?	What improvements would you suggest for future sessions?	Please provide any additional comments.
1	Student	N	N	Research scientist on Space Debris	I am an organizer	Y	I want to learn about the details	Y	A	G	G	Y	Y	Well structured by topics; very well presented and organized overall	Open to more people; more space for beginner level questions.	
3	Student	Y	Y		ILRS org. team	Y	Make sure I'm up-to-speed with the basics	Y	A		V			Broad overview of the topics; nice introduction to the 'famous faces' of the SLR community.	Less intense schedule.	Difficult to ask basic 'stupid' questions while the 'teachers' are asking complex questions.
5	Observer	Y	N	Software engineer	Through a colleague	Y	To brush up on SLR basics	Y	F	G	G	N	Y	Good overview of SLR basics and talks dedicated to software.	Presentations had a lot of material and there seemed to be not enough time to properly discuss all topics. It would be nice if the SLR School was more "workshop" related, perhaps hands-on demo for software and mathematical concepts, specifically for data analysis.	
7	Observer	Y	Y	Engineer	Coworker encouraged attendance	Y	Learn more of the parts of SLR	Y	A	G	A	N	Y	Content has been great but not enough time for each.	More time for each. Content should be agreed upon prior to school. The disagreements of the speakers should be limited. Remember the audience is not familiar w/SLR so need to have agreement on content. Session 3 is a prime example of where it go "too conferecy" and not school enough.	Should be run in a more interactive format and less like a conference session.
9	Presenter	Y	Y	SLR station operator	ILRS org. team	N	Presenter	Y	V	V	G	Y	N			
11	Presenter	Y	Y	Postdoc		Y		Y	G	G	G	Y	N		Probably too "high level" for newcomers to SLR field.	
13	Student			Employee at DiGOS	In a meeting, someone told me about it	Y	Because I want to learn about SLR operation and their applications	Y	P	F	V	Y	N	In my opinion, the structure of the SLR school was well planned. It gave me a good overview to that technology.	I would like to learn more about the basics; SLR stations and the technology.	More short breaks would help to stay longer focused.
15	Student	Y	N	Researcher at DLR/GSOC	Email of Carey Noll	Y	Interested in SLR overview beyond what I already know and meeting people in the SLR community	Y	F	G	G	N	Y	Very good and competent speakers; good audience participation in Q&A; tasty food.	Keep the session on time; have the workshop on weekdays (Mo-Fr) not on the weekend as it is difficult to get it refunded as a business trip.	
17	Student	Y	Y	Assistant station manager	ILRS website	Y	To deeper understand data flow and ILRS data (coming from operations)	Y	G	G	G	Not sure	Y	Broad overview of data flow and station operations; designing a station in 2019.	Better ventilation in afternoon session; Rob's talk should have been first, painting with broader strokes.	Thank you for putting on the school, was good!
19	Observer	Y	Y	University professor	Since the proposal	Y	To see the reactions from the students	Y	V	V	A	Y	Y		Show observatories and/or satellites; real activities are more attractive than lectures; >50% lectures are probably too difficult for beginners.	Ban questions from experienced people.
21	Observer	Y	Y	ILRS AC employee	ILRS	Y	Interest	Y	V	V	G	Y	Y			
23	Presenter	Y	Y	Backup of DGF1-TUM ILRS AC	ILRS Mail	Y	It is a good opportunity to recapture various aspects of SLR which are not the main focus of my studies	Y	G	V	G	Y	Y	Insight into lots of different SLR-related aspects; platform for discussion of various issues with experts in the topic; opportunity to discuss in less "formal" environment than the official ILRS workshop.	Keep the session/presentation on time.	It would be good to have a 1-day school at every ILRS workshop; multiple-day schools could be offered at special occasions.
25	Presenter	Y	Y	Pi of DGF1-TUM ILRS AC	IERS DB meeting	Y	Presenter; interested in all SLR aspects	Y	V	V	G	Y	Y	Broad variety of topics!	More didactive (?) talks in sessions.	Maybe 2 day school with labs would be good.

27	Presenter	Y	Y	Analysis Center operation; Governing Board member	Discussions during earlier ILRS workshops and GB meetings	Y	Presenter; learning about whole SLR chain, including technical aspects of stations, LRA designs, etc.	Y	G	G	G	Y (as an overview, otherwise N)	Y (but not every year)	Overview of all elements within SLR (station technology, satellite characteristics, analysis, geodetic products).	Explicitly schedule time slots for discussion/questions.	Do a survey BEFORE the school and ask participants a) what is their background? Level of knowledge? b) what do they want to learn? Any specific interest? then collect specific questions and explicitly address them in the lectures; more than one day only if specific aspects are handled in detail e.g., exercises in SLR data processing.
29	Observer	Y	N	Research engineer	From ILRS conference website	Y	To understand and have a clearer view on SLR - data acquisition and analysis, errors budget, different contribution, ...	Y	A	G	V	Y	Y	Data production and analysis; corrections added to basic range data; error sources; trends "SLR station in 2019".	More time on data analysis; more inscriptions(?) (~100).	Thank you very much for the organization!
31	Presenter	Y	Y	Station staff, AC		Y		Y	V	V	G	Y	N	More discussion than regular ILRS workshops.	Agree and design program between session speakers to avoid repetition.	Some applications missing or not sufficiently covered, like orbit model improvement using SLR residuals (GNSS), or altimetry validation.
33	Student	Y	N	Research associate, data analyst, combination	Email	Y	Learn more details about complete SLR chain	Y	G	G	V		Y	Topics covered by experts; very well organized.	More details about challenges of SLR tracking at stations; maybe practical exercises.	
35	Student	N	N	PhD candidate	Colleague	Y	Introduction to SLR	Y	F	G	V	Y	Y	Very informative presentations.	Maybe switch to a workday (e.g., parallel to "normal" ILRS workshop sessions).	
37	Student	Y	N	Professor	IAG and DLR	Y	Getting first-hand expertise	Y	A	G	G	N	Y		Presentation files made available to participants in advance; a "school" would consist of "lectures"; the current set-up was often too research-driven; very interesting, but not always didactical.	
39	Student	Y	N	PhD student	Supervisor and ILRS website	Y	To learn more about SLR, show my work, talk to scientists	Y	A	G	G	N	Y	Discussions	Practical study; some presentations were not proper to SLR schools, rather workshop.	
41	Student	Y	N	Head of VLBI receivers lab	During registering to ILRS technical workshop	Y	To understand the basics of SLR	Y	P	F	G	Y	Y	Clarity of explanations; interaction with speakers and other colleagues.	Demo of SLR observation? It might be difficult to organize.	Avoid weekend days.
43	Observer	Y	Y	Researcher	Homepage about ILRS2019	Y	I want to increase my knowledge about SLR	Y	V	V	V	Y	Y		More theoretical topics would be great for me, ex. Modeling of observation equation, statistical meaning of normal point, etc.	I wanted to see presentation slides before school to learn about them.
45	Presenter	Y	Y	Head SGF Herstmonceux	Was asked to take part	Y	See above	Y	V	V	G	Y	N	I think the smaller size of group helped with discussions.	If there was a way to demonstrate some of the aspects we saw, fake observing, real time analysis somehow; but this is very difficult of course.	Somehow the extra experts in the room need to try and restrict their questions to the intended level.
47	Observer	Y	N	Lecturer	Homepage	Y	I'd like to know how to teach SLR	Y	G	V	G	Y	N			
49	Student	Y	N	Project manager	ILRS workshop website	Y	To learn about SLR fundamentals, current challenges in the field, and future research directions	Y	A	G	G	Y	N	Presentation from John Degnan on SLR history, design, and applications; appreciated ties between SLR, VLBI, DORIS, and GNSS.	Spend more time building off current SLR configurations; what are the pros/cons of each accuracy? Cost? Station reliability/uptime? Size tradeoffs? Future changes/optimizations? Etc.; greater discussion of laser comms, time transfer, quantum key distribution.	Session from Prochazka was scattered and not helpful.
51	Student	N	N	Director	CDDIS email	Y	Learn more about SLR; experience with GNSS, VLBI	Y	A	G	V	Y	Y	More basic talks covering the how-to aspects.	Perhaps follow the photon path through the analysis.	Excellent venue; would have been nicer closer to town.
53	Student	Y	Y	PhD student	On the ILRS website	Y	I would like to refresh my knowledge	Y	G	G	G	N	Y	Good atmosphere.	Practical exercise; more details.	

55	Observer	Y	N	Scientific staff	DLR webpage	Y	To get an overall "picture" on SLR	Y	A	G	V	N	Y	How the different issues (error sources, corrections, etc.) affect; What you can actually achieve with SLR (gravity, com, etc.).	Well done! Congratulations!	
57	Student	N	N	Hardware designer	Colleague	Y	Interest on special LRF methods	Y	F	A	G	Y	Y	High density of knowledge in many different topics.		
59	Student	N	N	Electrical engineer	Internet (DLR)	Y	To improve my knowledge about LR techniques	Y	A	A	G	Y	Y	Practical information about the stations; very broad overview.	As a summer school a lot of topics are too specific and require a lot of knowledge beforehand; add a "more shallow"	Thanks for the good speakers!
61	Presenter	Y	Y	Professor		Y	Talk	Y	V	V	V	Y	N			
63	Observer	Y	Y	Research scientist working on upgrading an SLR station	Through SLR mailing list and ILRS/workshop websites	N	I wanted to get an intense learning package covering all aspects of SLR	Y	G	V/G	V	N	Y	Combination of more general talks and detailed hands-on real life application talks.	Higher capacity More time; actual hands on exercises on e.g., simulating data analysis pipeline or simulated observations; or optical alignment etc.; of course those are harder to organize especially for a big group.	Thanks! Very good addition to the ILRS workshop!
65	Student	N	Y	Engineer	My employer told me about the school	Y	To learn the basis of SLR	Y	P	A	G	Y	Y	The basics were explained understandable for someone at my level.	The questions asked were a bit over my level; having traveled a long way the day before, it was hard to stay awake the whole	To do this over two less-intensive days would probably be better; also a few videos to illustrate stuff would be nice.
67	Observer	Y	Y	SLR operations lead, Peraton	Interaction with CDDIS and ILRS	Y	Looking to learn more about the background, technology/applications, data processing, etc. related to SLR; also looking to learn more about the ILRS community.	Y	G	G	V	N	Y	Good overview, whirlwind introduction to the concepts; it let me know who to talk to to get more in depth information!	Ordering of the afternoon presentations should have been switched around; operations and trends would make more sense to come right after morning sessions as they were more introductory.	Maybe include overall glossary/acronym dictionary as a quick reference for us "newbies"; maybe provide some kind of starting summary survey of the concepts? See where everybody is starting from.
69	Student	Y	Y	PhD student	While looking for information about the ILRS workshop	Y	To extend my knowledge about the SLR data processing	Y	G	V	V	Y	Y	Data analysis session; comprehensive introduction into technique principle and data analysis.	Practical training on data analysis; data download, NP generation (testing screening strategies) post-processing, i.e., determination of different set of	
71	Student	Y	N	Mission analysis of Flight Dynamics Engineer	IGSMail I think	Y	To get initial insight/introduction to SLR; understand use for GNSS POD validation and future uses/developments.	Y	P	A	A	Y	Y	Broad overview/introduction about SLR; really good catapult-like start into SLR topic.	POD solution/GNSS validation was not covered; more information on commercial uses (maybe?); 2-days would be good; present research focus/foci of each station that was mentioned; combine SLR School with visit to SLR station.	Some sessions (calibration) too high level/detailed.
73	Observer	N	Y	Project manager of ESA's first SLR station	Being part of the organizing committee	Y	To gain competence/knowledge to know what one talks about as a project manager and promotor of SLR in ESA.	Y	A	V/G	V	Y	Y	Addressing every aspect of the SLR technique to a reasonable level.	Perhaps a "hands-on" session.	
75	Observer	Y	N	Researcher	I am co-organizing	Y	To plan future activities	Y	F	A	V	Y	Y	Friendly atmosphere; good speakers; broad coverage topics.	include more basics of space geodesy and not SLR only.	
77	Observer	Y	N	Electro-optical engineer	Workshop website	Y	To learn more about the basic concepts; to get a better overview, because at the moment I am not actively involved; I am improving my knowledge.	Y	F	A	V	Y	Y	I found the school quite comprehensive; good job!	For the time being, I don't have any comments related to possible improvements of the SLR school.	I really enjoyed the concept of an SLR School prior to the technical workshop to refresh many concepts before jumping into the advanced topics; I would recommend it for every ILRS workshop.

79	Student	Y	Y	Post Doctoral Researcher	Workshop website/ILRS mailing list	Y	To have a better understanding of the SLR analysis; to understand better source of errors.	Y	A	A	G	N	Y	Session 3 corrections and error sources.	In the analysis section, Blossfeld presentation was a bit too fast and I think for a novice there were a lot of assumption that presumed already a relatively deep knowledge; the same hold for geodetic products presentation; some more details on single multiphoton	The allotted time for each presenter should be respected.
81	Student	N	N	PhD	From other members of our institute	Y	To learn more about SLR	Y	P	F	V	Y	Y	It really gives a good overview.		
83	Student	Y	Y	Software development and backup analysis for BKG (ILRS AC)	Workshop website	Y	To get a broader overview	Y	F	A	G	N	Y	The broad overview provided.	Each session would easily fill a whole day of a more extensive SLR school; the entry level of future ILRS workshops would be nice to deepen the understanding ... and for discussions of different approaches.	A one-day SLR school on more specific topics of SLR in connection to future ILRS workshops would be nice to deepen the understanding ... and for discussions of different approaches.
85	Presenter	Y	Y	Engineer (OCA, Grasse)	I was asked to present a part of LLR	Y	To present	Y	V	V	V	N	Y	The clarity of the explanations.	Longer sessions.	
87	Observer	Y	N	Head of working group	email	Y	Improve general understanding of this technique	Y	A	G/A	G	N	Y	Broadness, pretty much all aspects were covered.	More time; each presentation with a clear focus; avoid too quick speaking, clear pronunciation is essential for non-natives; avoid overloaded slides; backup each topic with equations for more clarity and references for further reading.	Thank you very much for organizing this school; it was a pleasure to attend; maybe topics in the sense of timeline; not sure whether the discussion of future systems provides so much education; too my takes more details in analysis would be interesting.
89	Student	Y	N	Software developer for VLBI data analysis	IVSmail	Y	Get an overview of the SLR/LLR system; get an introduction on technical aspects.	Y	F	A	V	Y	Y	Condensed knowledge nicely presented.	Keep the time; hands on examples (e.g., analyze a pass, scheduling); teachers could ask "comprehension" questions during talks; how can I analyze data? open access software?	
91	Student		N	University professor	IAG and ILRS websites	Y	Learn!	Y	P	F	G		Y			
93	Observer	Y	Y	Development of the SLR station and discuss latest technologies	SOC	Y	I learn basic technical issues of SLR	Y	V	V	V	Y	Y			It will be difficult to continue same program; but young engineers need such kind of school; in order to expand technologies, I propose to make like a "SLR Handbook".
95	Observer	Y	Y	Station manager		Y	Learn about improvements for our stations.	Y	G	G	G	Y	N	Variety of topics; very competent speakers.	Teachers in the audience should not ask too technical discussion questions; encourage students (rather than experts) to ask questions; and leave more time for questions; maybe design exercises for	
23 students		8 no	22 no			2 no			0 no	6 poor	0 poor	0 poor	13 no	9 no		
16 observers		38 yes	25 yes			46 yes			48 yes	8 fair	4 fair	0 fair	30 yes	37 yes		
9 presenters		2 no answer	1 no answer			0 no answer			0 no answer	13 average	9 average	3 average	5 no answer	2 no answer		
48 total responders										11 good	18 good	25 good				
										10 very good	13 very good	19 very good				
										0 no answer	0 no answer	0 no answer				

Other comments during Q&A:

- Direct people with information on where to go for more information
- Better to hold on a weekday
- Let students ask questions (not experts)
- But if experts ask, students do learn
- Almost every aspect was covered
- As perfect as can be
- Live demo at a station would be good
- Two days would allow for longer lunch and breaks which promotes discussion too
- Attended school but not workshop: GNSS users received a broader overview of SLR