



# A Multi-platform Package for the Visualization of the ILRS QC Reports

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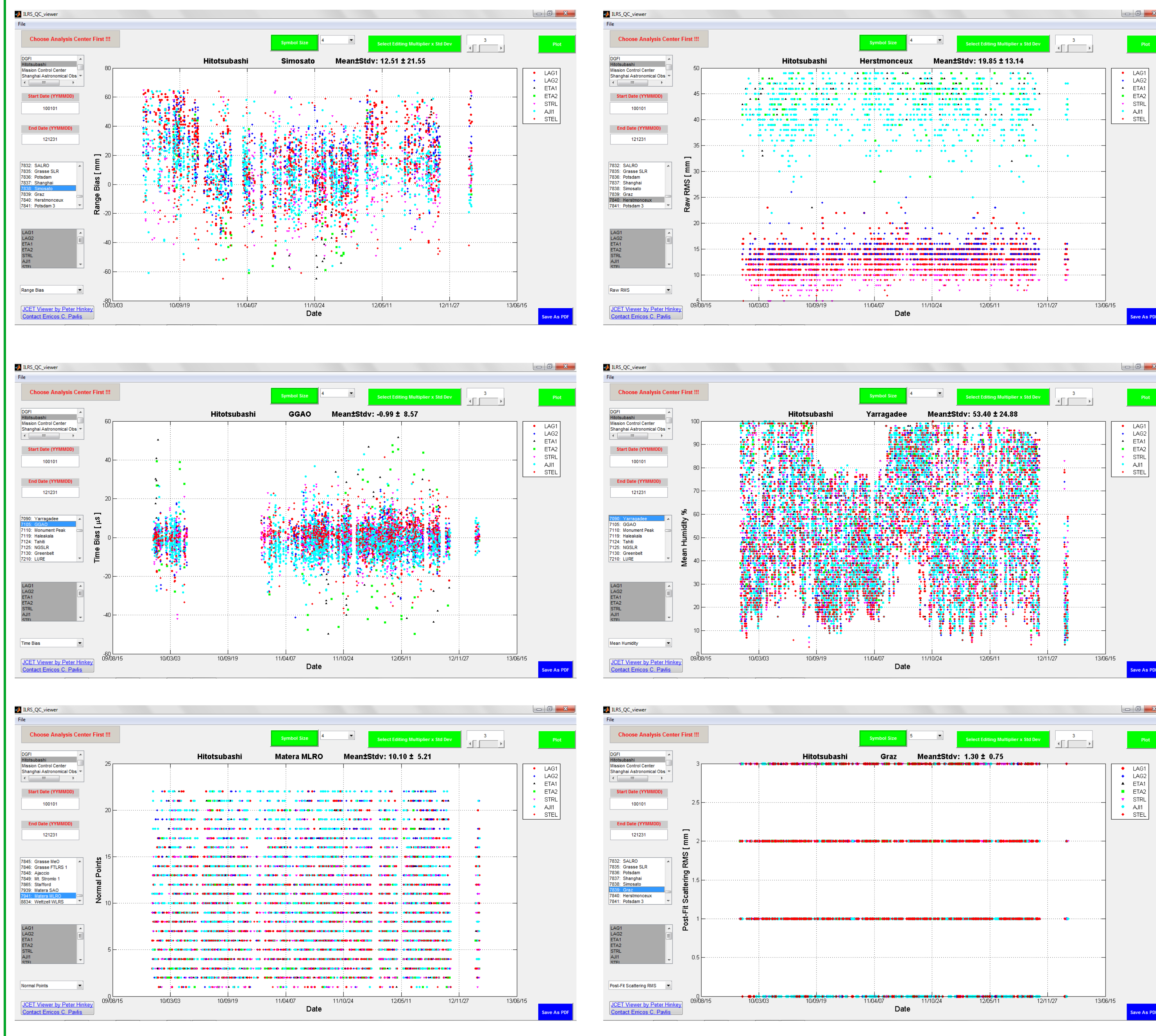
## Abstract

We developed a software package based on MATLABM that allows users to query a data base with ILRS-sanctioned QC reports and visualize the reported information as a function of the tracking site, tracked satellite target and reporting Analysis Center, over the selected period of interest. The user can perform simple statistics on the windowed data set. The “JCET QC Viewer” software works on multiple platforms (e.g. Windows, Linux and Mac OS), and does not require ownership or local availability of MATLABM. The software will be distributed by the ILRS along with a data base of all the available QC reports up to the release date and from all ACs. The users will be responsible for updating the data base by including the reports released beyond the date of release of the package. We will present the capabilities offered by this package and examples for each application. As long as there are no format or content changes in the distributed QC reports the software requires little maintenance. We plan to maintain the QC Viewer as resources and time permits and extend it to include any future additions or modifications to the current suite of distributed reports.

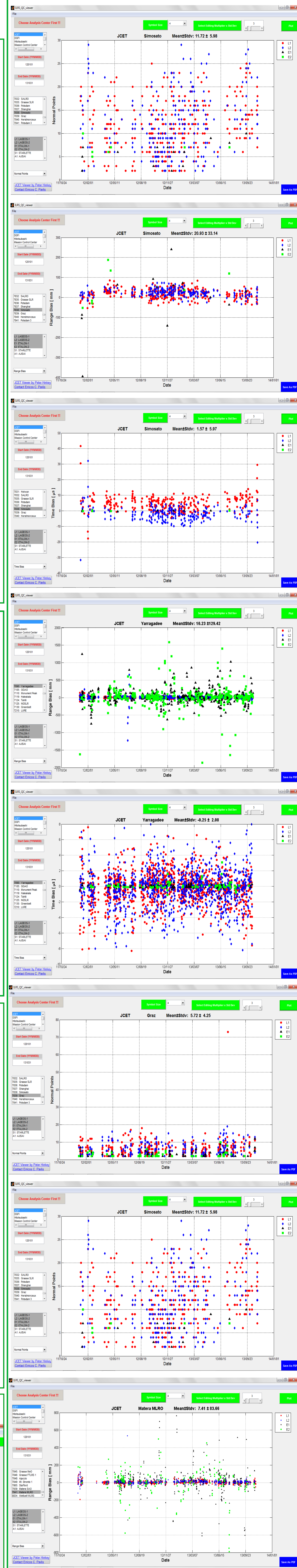
## ILRS QC Resources

- The ILRS has dedicated Analysis Centers that monitor the quality of the data collected at all sites
- Most QC ACs deliver these reports on a weekly basis, some provide daily reports
- The information provided in these reports is compiled into a “report card” (originally quarterly, now monthly!) that is available online
  - For each site one can find short-term and long-term performance based on their statistics over the past 3-months and 1-year periods respectively

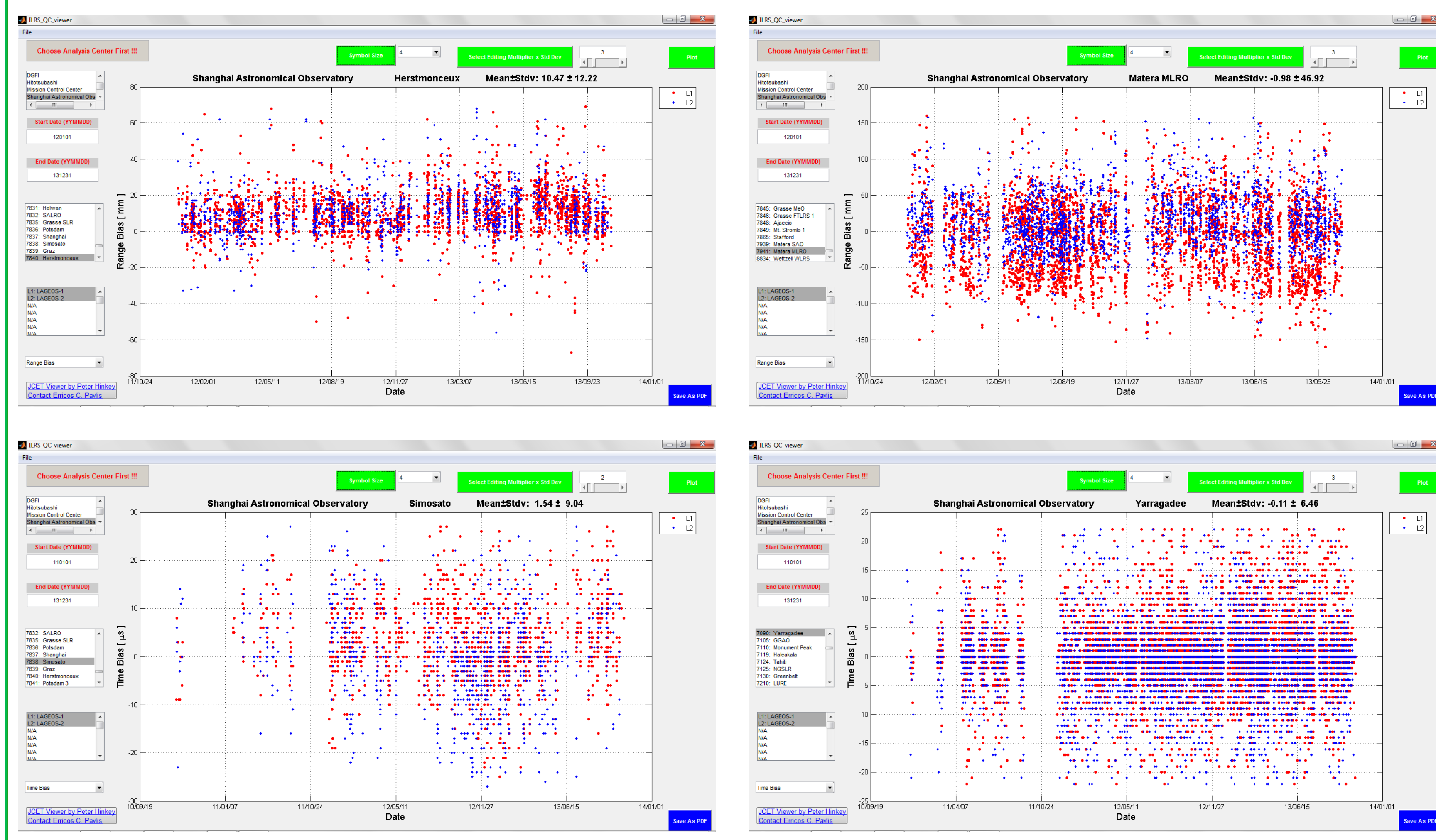
## HITOTSUBASHI UNIVERSITY REPORTS



## UNIVERSITY of MARYLAND JCET REPORTS



## SHANGHAI ASTRONOMICAL OBSERVATORY REPORTS



## ILRS MONTHLY GLOBAL REPORT CARD

Site Information	DGFI Orbital Analysis			Hitotsubashi Univ. Orbital Analysis			JCET Orbital Analysis			MCC Orbital Analysis			SHAO Orbital Analysis				
	Station Number	LAG NP RMS (mm)	short term (mm)	long term (mm)	% good LAG NP	LAG NP RMS (mm)	short term (mm)	long term (mm)	% good LAG NP	LAG NP RMS (mm)	short term (mm)	long term (mm)	% good LAG NP	LAG NP RMS (mm)	short term (mm)	long term (mm)	% good LAG NP
<b>Baseline</b>		10.0	20.0	10.0	95	10.0	20.0	10.0	95	10.0	20.0	10.0	95	10.0	20.0	10.0	95
Yarragadee	7090	3.7	15.6	1.8	100.0	2.0	7.5	1.9	100.0	3.2	14.8	2.8	99.8	2.4	16.6	2.9	99.3
Changchun	7237	4.2	26.7	4.7	99.1	3.1	25.2	2.8	99.7	3.1	28.8	3.5	98.8	4.1	30.9	10.5	96.4
Mount_Shimizu_2	7825	4.2	14.1	4.1	100.0	3.1	8.1	2.0	100.0	3.5	15.2	3.7	99.9	4.1	12.9	3.3	95.4
Zimmerwald_532	7810	3.1	11.8	7.8	99.9	1.4	6.4	3.1	99.8	2.1	13.0	7.8	99.9	2.6	13.8	3.2	99.5
Wettzell	8834	3.7	13.1	3.8	100.0	2.5	8.8	2.3	100.0	3.1	12.4	3.9	99.4	2.6	11.5	4.2	98.2
Graz	7839	2.5	11.2	3.8	100.0	0.8	4.4	1.8	100.0	1.9	11.7	4.9	98.5	1.9	12.0	4.5	98.0
Matera_MLRO	7941	2.6	12.0	4.7	99.9	1.2	6.0	2.6	100.0	2.1	12.4	4.4	100.0	1.8	14.3	3.7	99.5
Greenbelt	7105	4.5	12.0	4.7	99.9	1.2	6.0	2.6	100.0	2.1	12.4	4.4	100.0	1.8	14.3	3.7	99.5
Hermonieux	7840	2.7	9.8	3.5	100.0	1.4	5.4	1.5	100.0	1.7	11.8	2.9	100.0	2.8	8.9	2.7	99.9
Monument_Peak	7110	5.8	17.2	5.3	99.7	3.8	12.3	2.0	99.7	5.7	20.5	4.9	98.0	3.9	20.5	3.9	94.4
Hartebeesthoek	7501	4.8	18.6	5.0	99.9	2.9	6.4	3.2	99.8	3.8	18.7	5.4	98.9	3.3	23.5	4.6	98.3
San_Juan	7406	16.9	44.1	9.5	97.6	5.6	33.0	10.7	98.0	7.2	33.0	8.3	79.2	7.4	30.5	9.0	91.6
Potsdam_3	7841	3.9	10.7	4.2	100.0	1.7	7.7	2.7	99.6	2.7	10.9	5.0	99.4	2.1	7.4	2.9	98.2
Grasse_MEO	7845	4.2	14.1	3.1	100.0	2.8	9.6	3.1	100.0	3.5	13.3	2.6	100.0	3.1	12.9	3.3	97.5
Arequipa	7403	5.6	22.8	11.8	99.5	2.4	22.6	18.4	99.2	5.0	25.8	21.5	97.4	3.6	16.6	6.8	96.0
Shanghai_2	7821	8.0	44.8	19.7	99.4	3.8	43.9	18.8	100.0	4.1	46.2	24.6	94.1	5.0	46.6	21.5	97.5
Haleakala	7119	7.0	22.3	9.0	98.3	3.8	11.3	2.7	98.1	5.3	15.1	4.8	96.7	5.8	27.0	14.3	96.8
Simosato	7828	5.1	27.7	11.3	100.0	3.1	17.1	8.9	99.8	6.1	19.0	9.0	97.1	4.5	19.1	9.9	98.9
McDonald	7092	5.2	14.9	6.3	99.7	2.9	7.8	3.5	98.7	4.2	14.1	3.8	99.3	3.4	15.9	8.2	93.2
Kiev	1824	18.3	42.8	26.5	84.1	12.6	49.7	28.3	89.1	4.9	30.1	18.7	47.8	12.7	44.4	33.8	87.8
Katzev	1893	15.8	17.6	6.4	98.9	9.8	17.8	3.5	97.9	7.0	20.5	6.5	79.9	12.1	18.8	10.4	89.3
Concepcion_B47	7405	9.0	40.8	11.7	99.1	1.6	50.3	8.7	100.0	9.9	57.3		87.5	2.6	38.8	14.6	100.0
Ankhyz	1886	9.5	22.4	14.1	100.0	6.9	26.8	15.3	99.8	7.3	25.5	12.7	93.7	7.6	27.2	19.5	93.2
Alay	1879	22.5	53.2	21.3	100.0									3.8	15.1	7.4	100.0
Beijing	7249	5.9	19.5	13.2	100.0					5.7	17.8	11.4	98.3	5.2	22.4	15.4	98.6
Simaz	1875	5.9	19.5	13.2	100.0	30.2	31.8	24.1	98.7	7.1	35.4		57.1	25.6	42.4	29.1	93.6
Balkunar	1887	10.5	25.0	21.7	100.0	7.3	26.5	10.3	99.8	8.1	29.3	20.4	89.2	7.3	18.0	17.2	95.6
Komsomolsk	1868	10.4	48.0	27.7	94.4	3.7	31.2	20.6	100.0					3.7	51.7	23.9	96.4
Papeete	7124	4.9	17.3	9.4	100.0	2.5	7.8	3.8	100.0	4.0	13.2	4.3	99.5	3.8	20.4	7.6	100.0
Badary	1890	6.1	14.8	9.8	92.3	5.2	12.4	8.5	100.0					6.4	17.3	22.4	91.3
Zelenchukyskaya	1889	4.8	7.9	3.2	100.0												
Svetloe	1888					8.0	13.4		100.0								

## Global Report Card Access at:

[http://ilrs.gsfc.nasa.gov/network/system\\_performance/global\\_report\\_cards/monthly/](http://ilrs.gsfc.nasa.gov/network/system_performance/global_report_cards/monthly/)

## Access Reports directly from:

- [http://ilrs.dgfi.badw.de/fileadmin/quality/weekly\\_biases/](http://ilrs.dgfi.badw.de/fileadmin/quality/weekly_biases/)
- <ftp://cddis.gsfc.nasa.gov/pub/reports/slrhitu>
- <ftp://cddis.gsfc.nasa.gov/pub/reports/slrjcet>
- <ftp://cddis.gsfc.nasa.gov/pub/reports/slrmcc>
- <ftp://cddis.gsfc.nasa.gov/pub/reports/slrsao>

## JCET QC Viewer

- The QC reports from each of the contributing ACs are in general formatted in a very tailored manner, containing different information, in different order, units, etc.
  - The information in these reports should be easily compared across AC, satellites, stations, evaluation metrics, etc., for these to be useful to the teams managing the various stations
  - In the past, the Graz team had devised a PC-based plotting package that was tailored to work with the UT/CSR reports, the only ones available at the time
- JCET’s MATLAB-based QC viewer works with ALL reports from DGFI, HITU, MCC, JCET, SHAO and (legacy) UT/CSR
  - The package will run on Mac, Linux and Windows environments and it will be distributed with examples, a historical QC report data base (up to a certain date) and a simple user’s manual

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To obtain an executable and installation instructions from JCET, contact: Erricos C. Pavlis: [epavlis@umbc.edu](mailto:epavlis@umbc.edu)

