Statistical Analysis in 20xx

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- Bad Kötzting, Germany, May 16-20, 2011

Outline

- Spatial distribution (Groundtracks)
- Time series since 2000 (stations, nps, passes)
- Weekly analysis results
- Weekend effect
- Ratio northern/southern hemisphere

Introduction

- The quality of SLR observations has improved during the last years.
- Analysis results benefit from the better tracking
- But better models have the biggest contribution to the quality of analysis results
- Station distribution, biases and unmodelled effects on stations and satellite limit the achievable quality
- This presentation concentrates on evolution of SLR observations since 2000

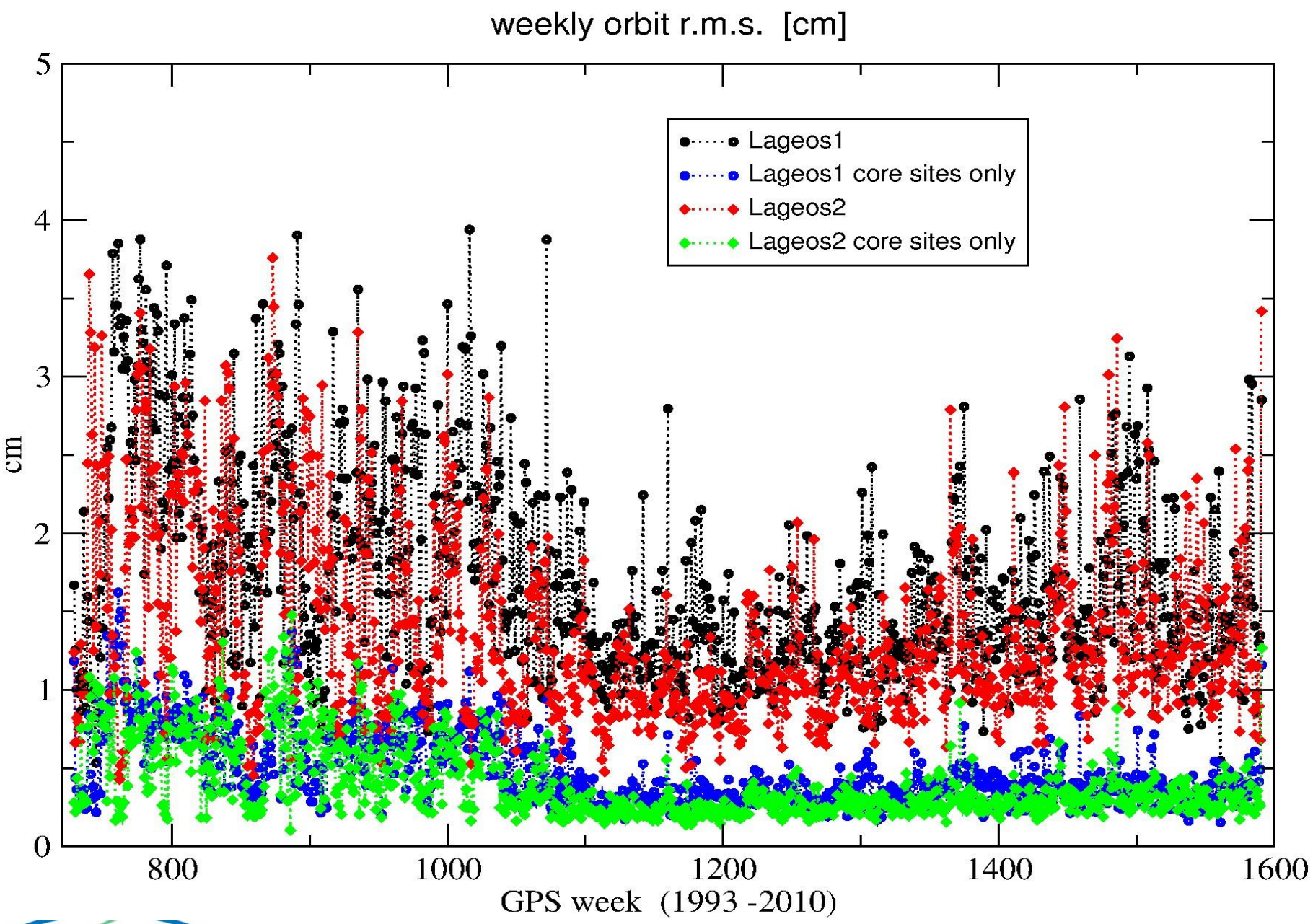
Statistics and Plots used are taken from the ILRS Web pages

http://ilrs.gsfc.nasa.gov/stations

Analysis results used are taken from actual work at DGFI

more information available on: http://ilrs.dgfi.badw.de

Mean orbit fit



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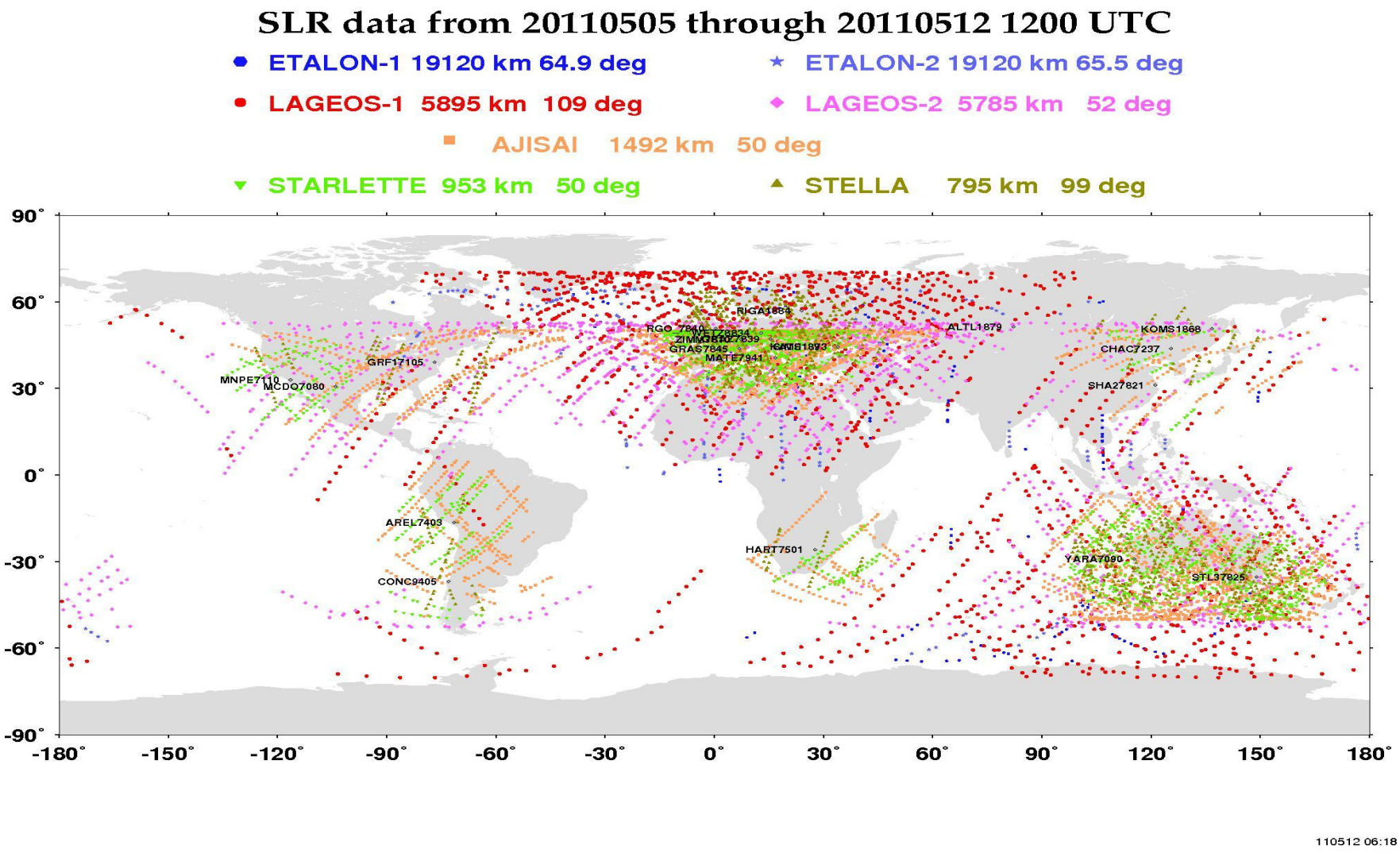
Groundtracks



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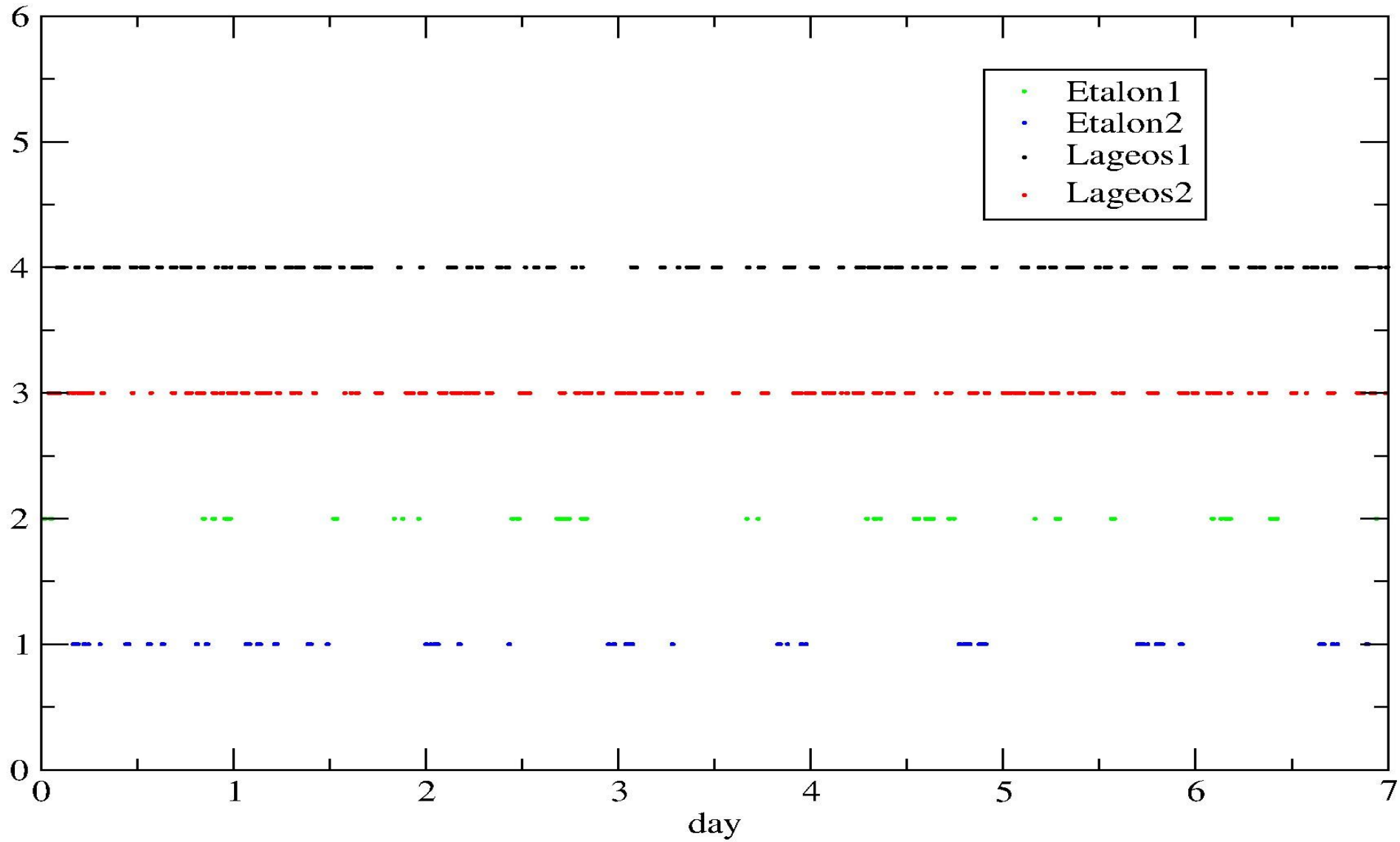
Orbit



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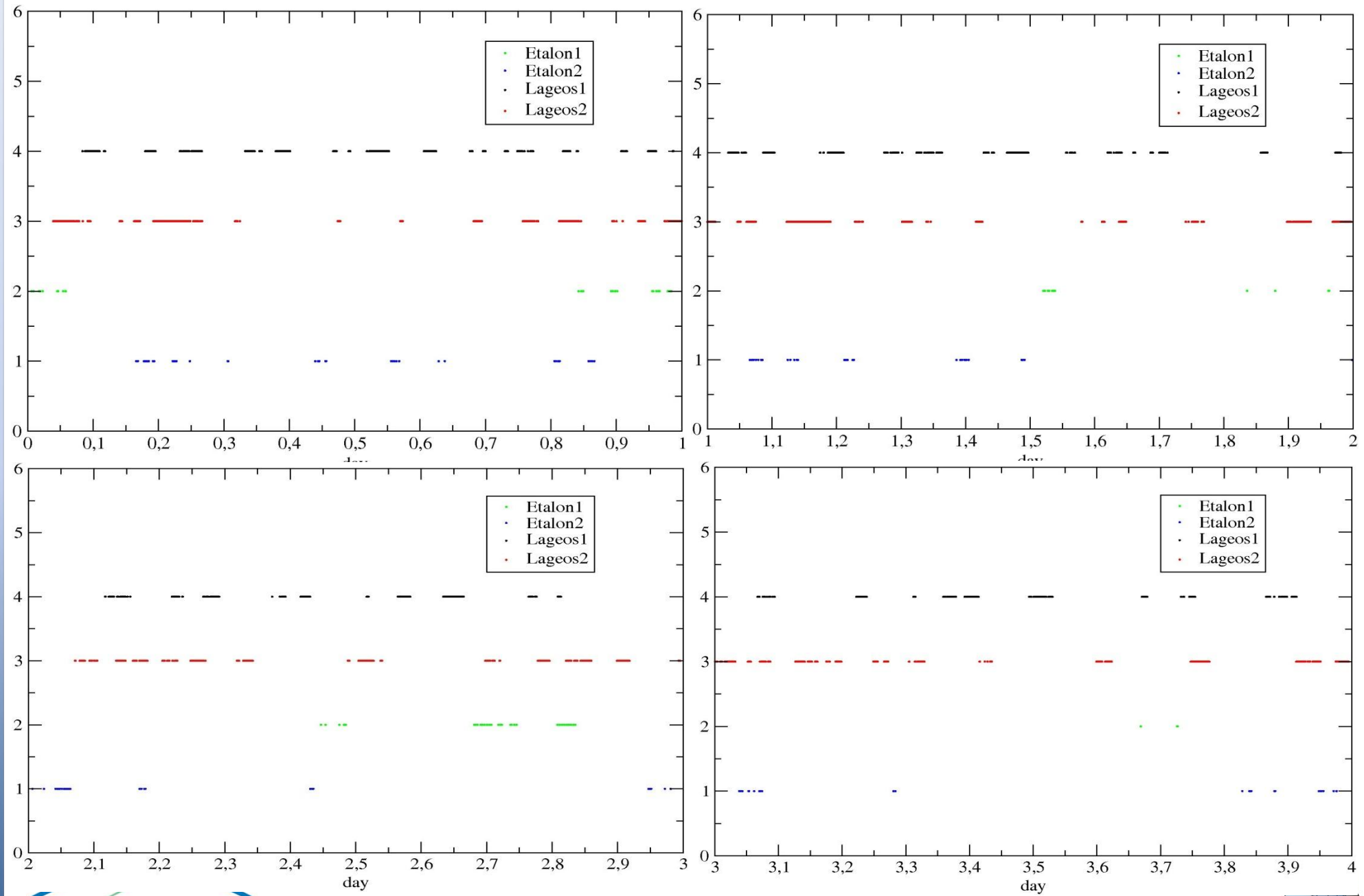
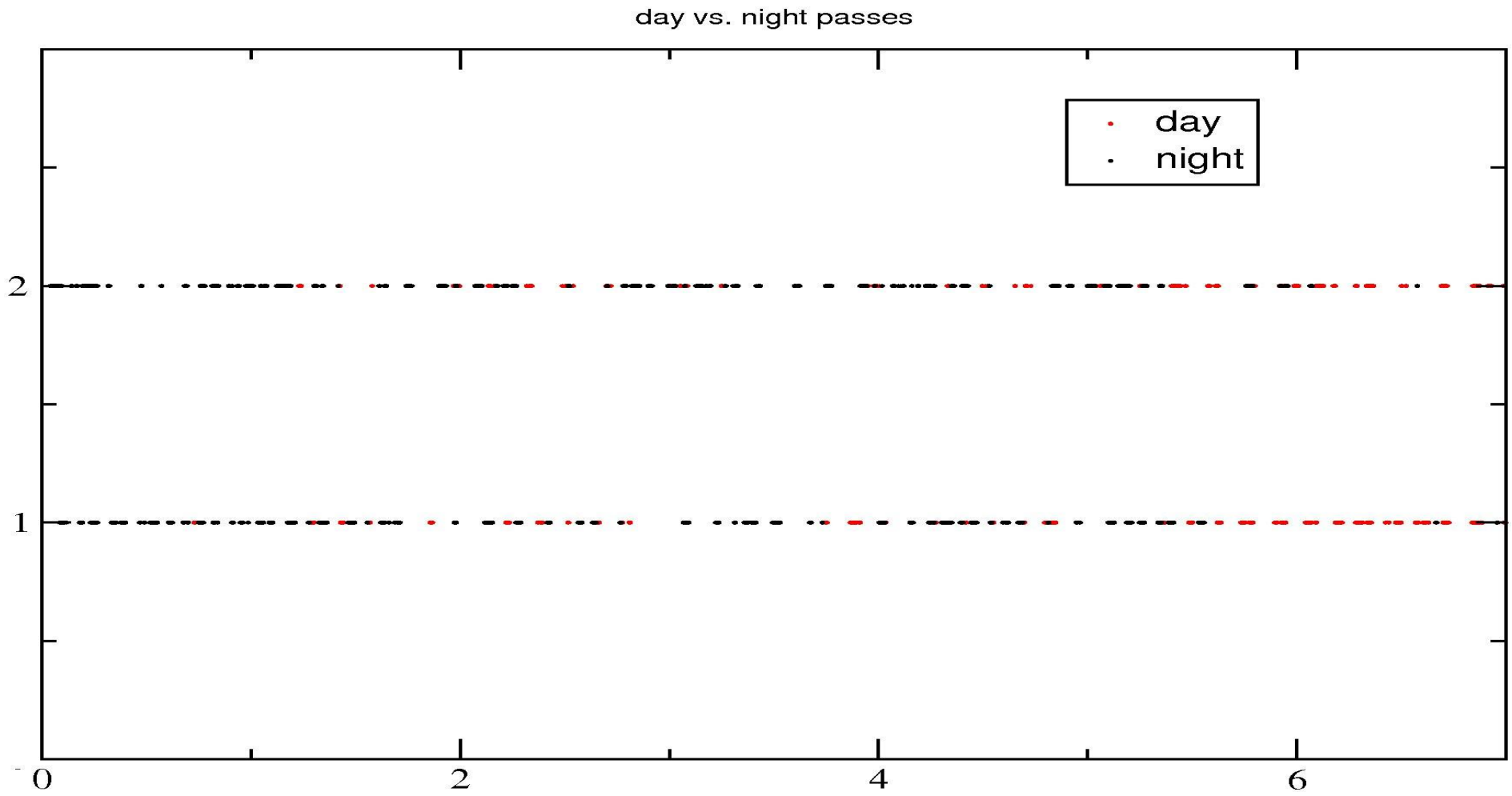
SLR-solutions



Orbit, March 13-19 2011



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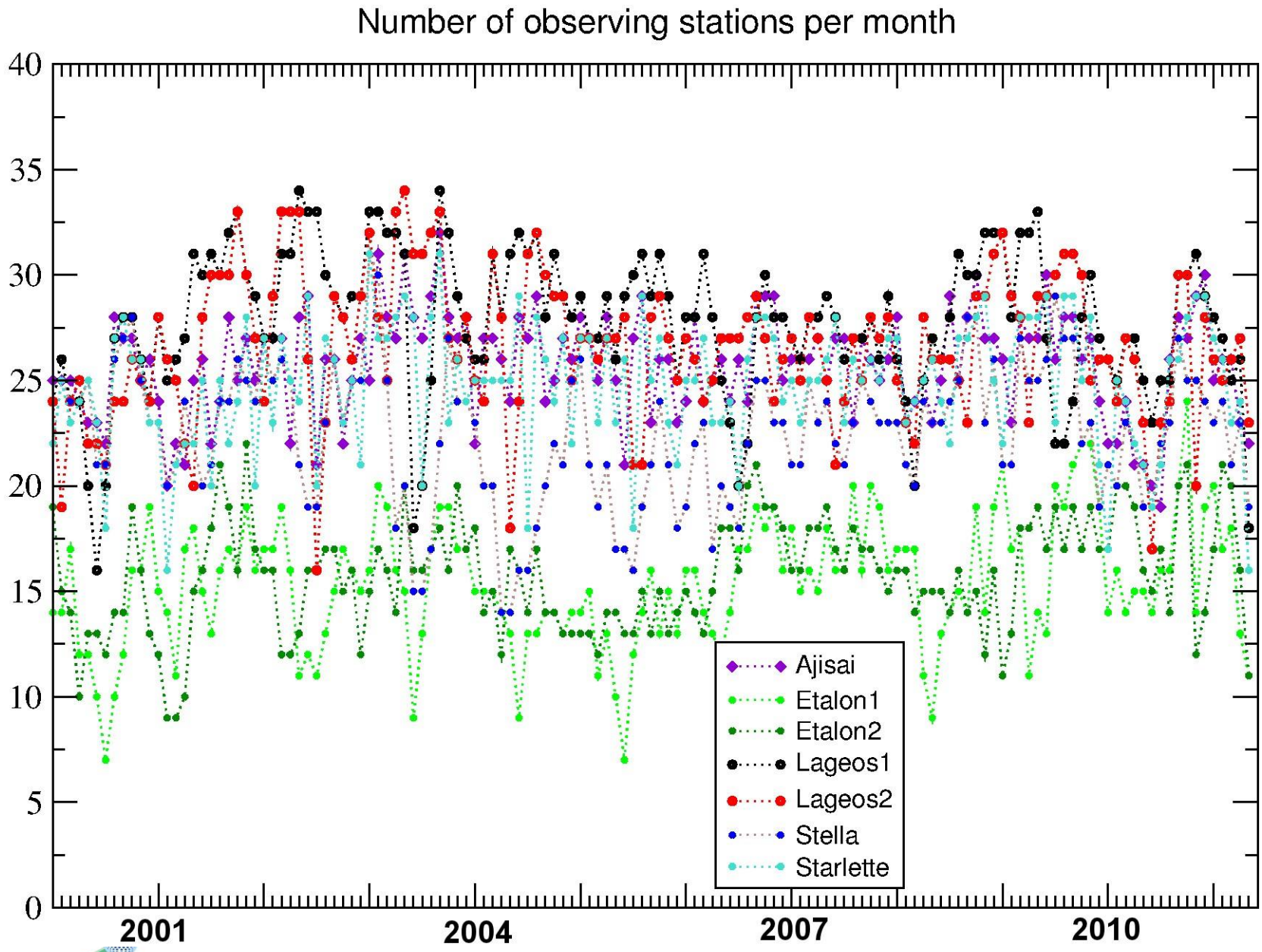
Tracking stations



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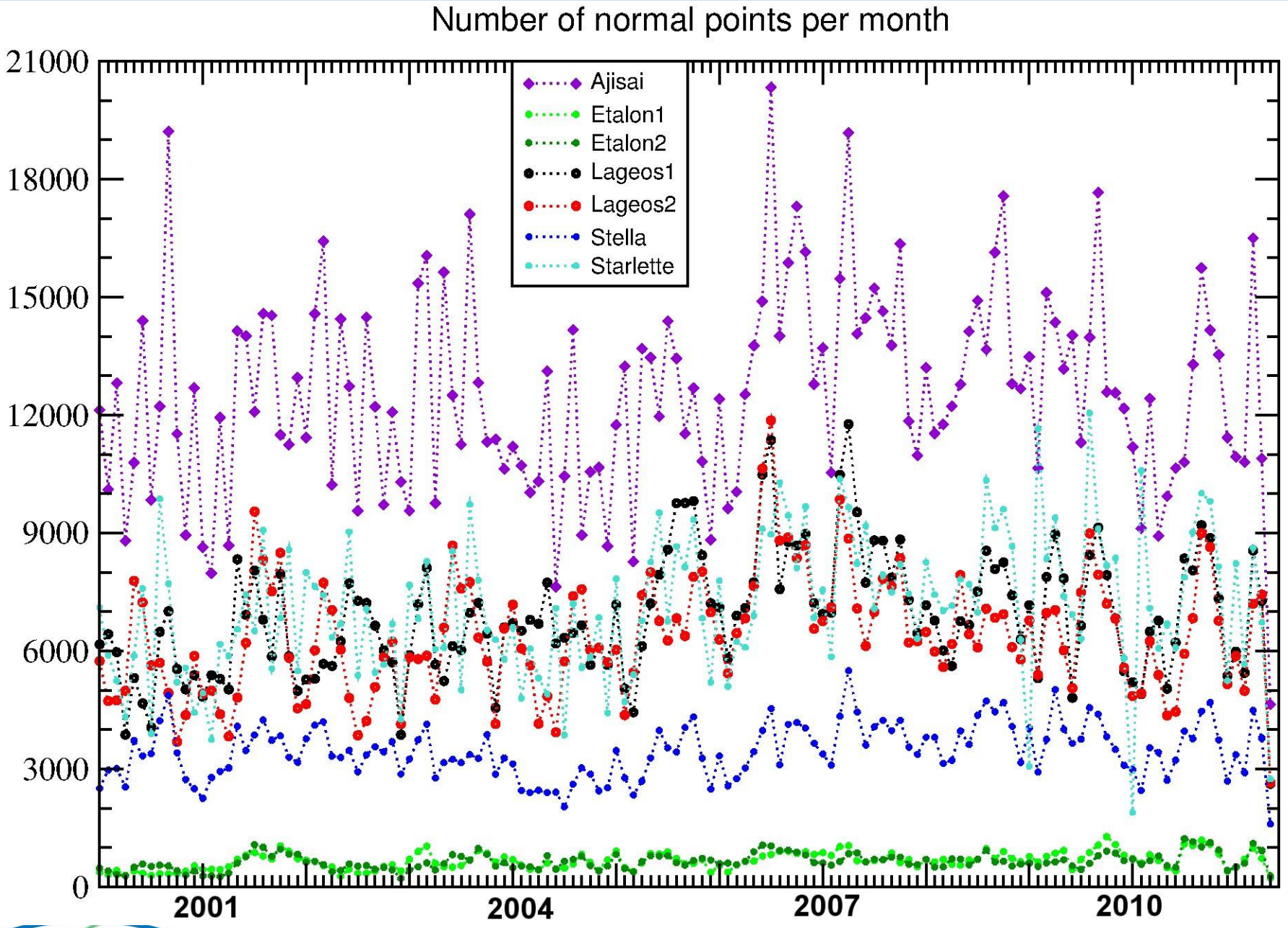
Tracking



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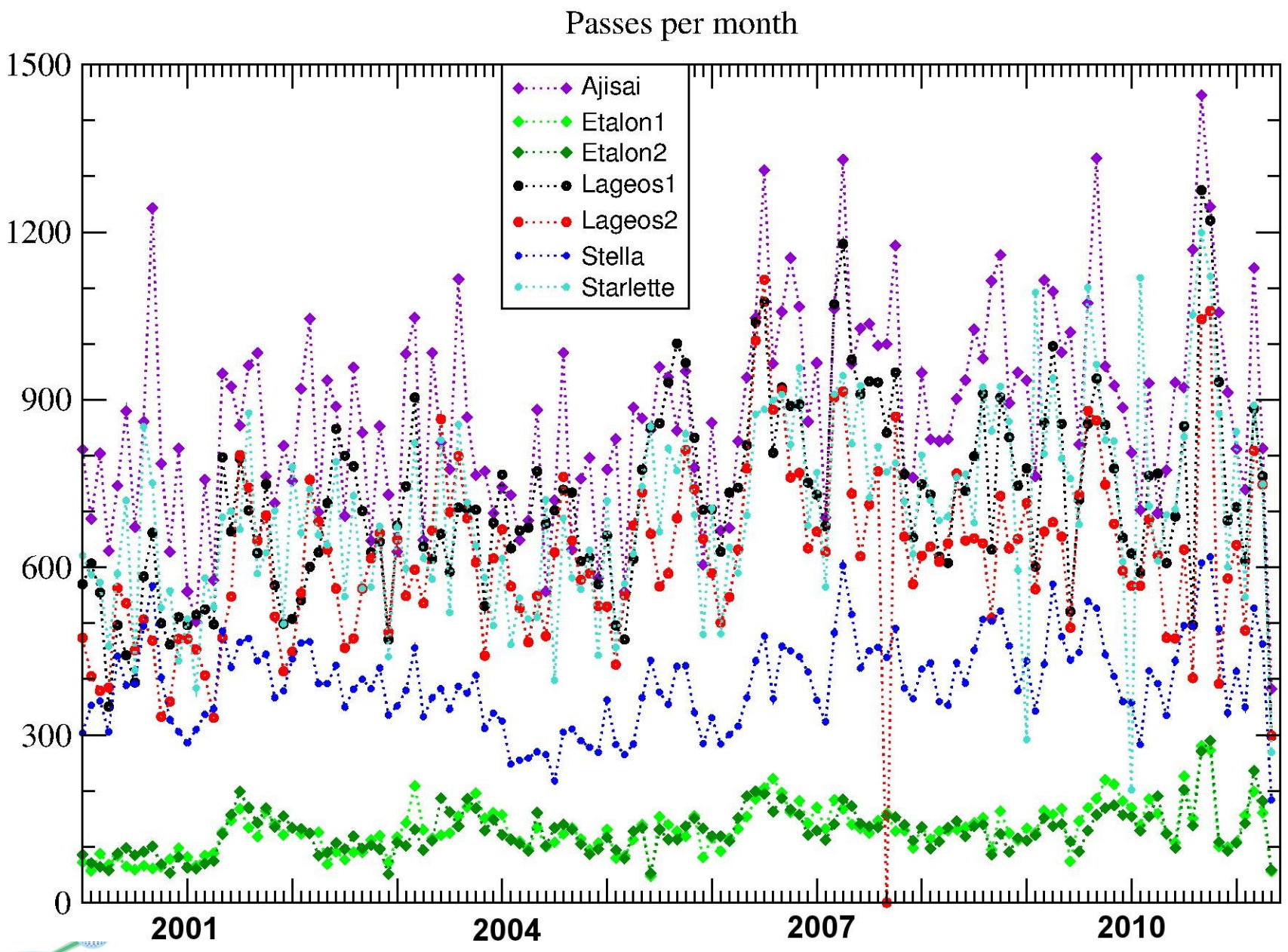
Tracking



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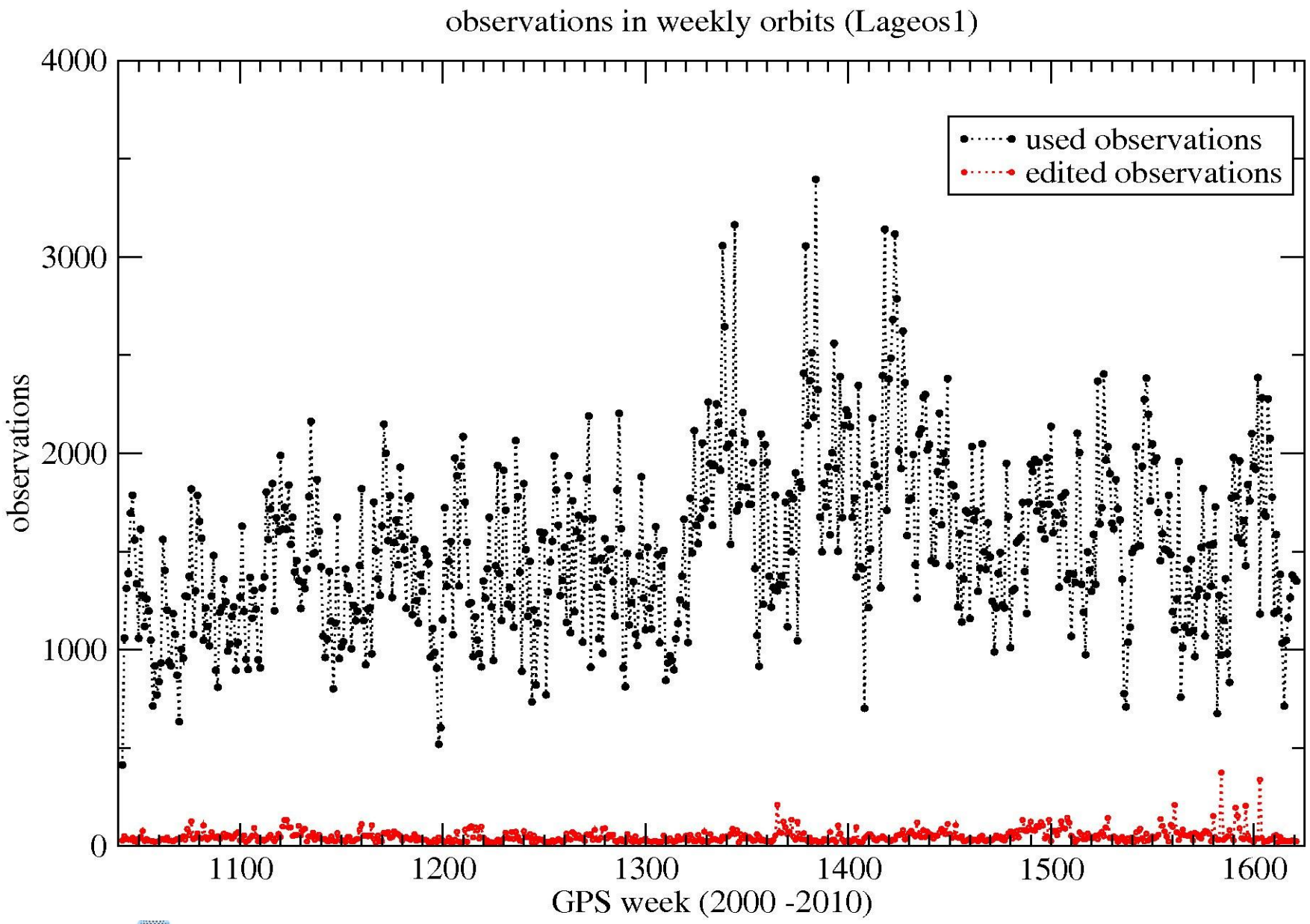
Data quality



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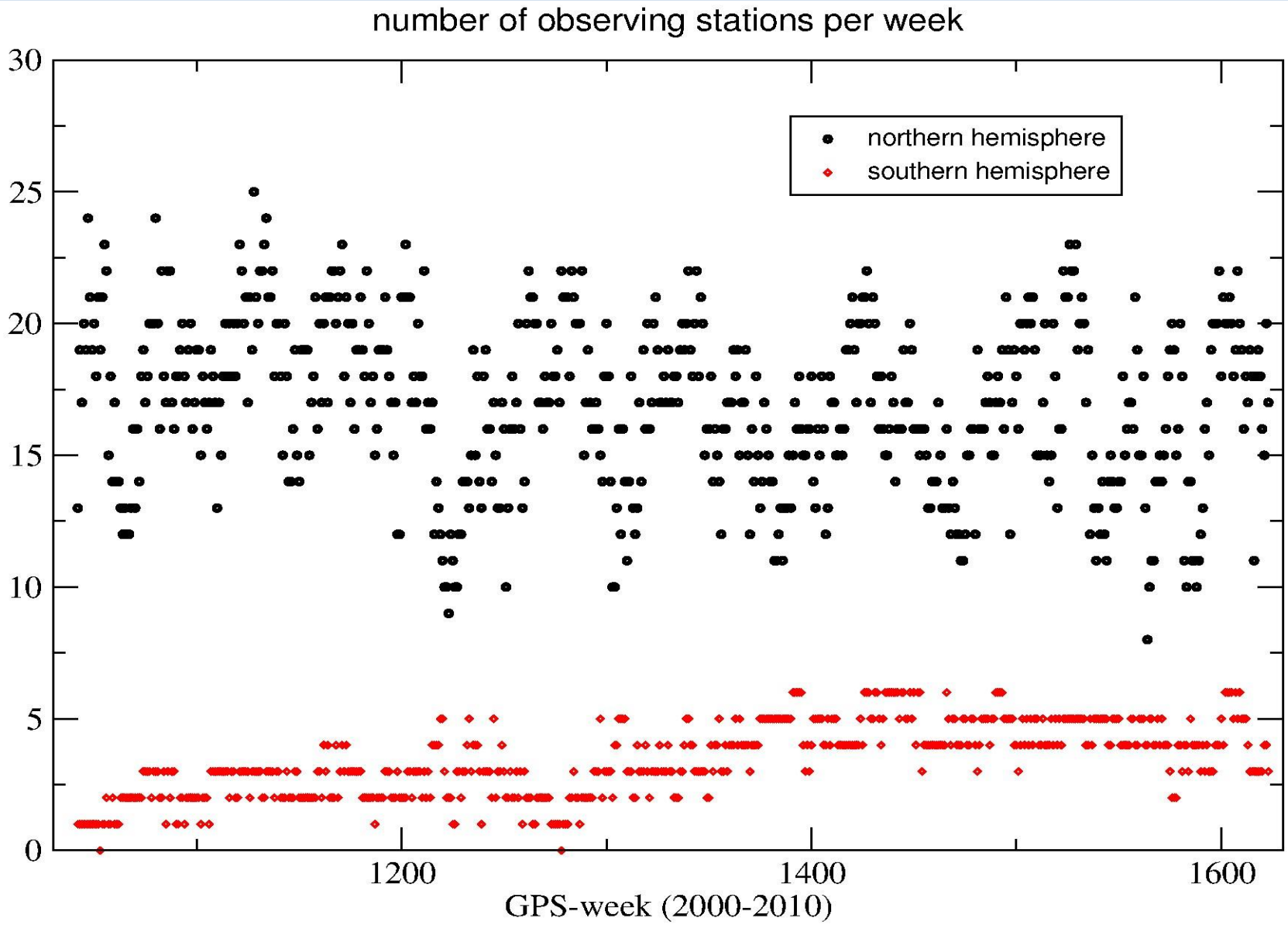
Northern/sourthern hemisphere



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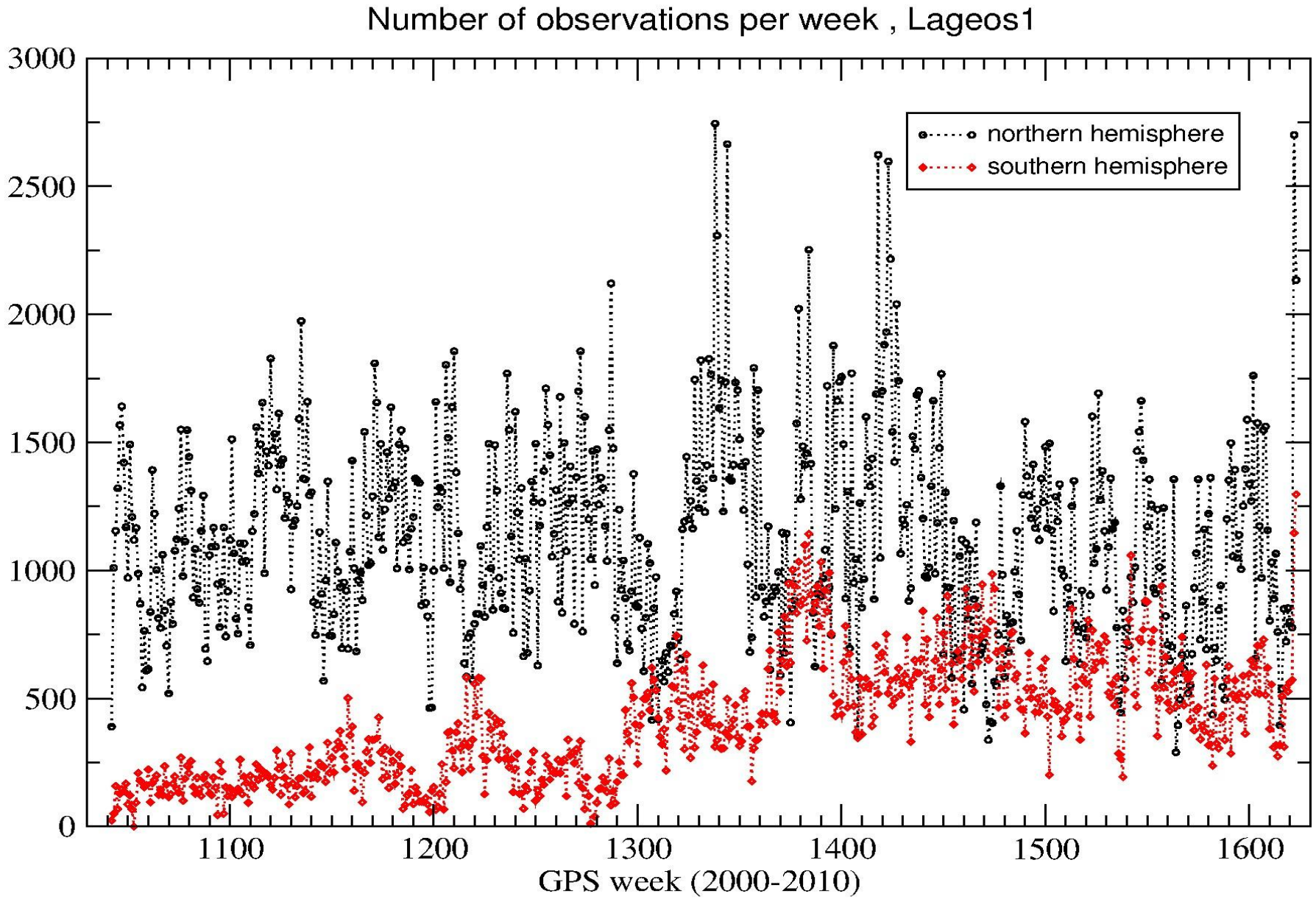
Northern/sourthern hemisphere



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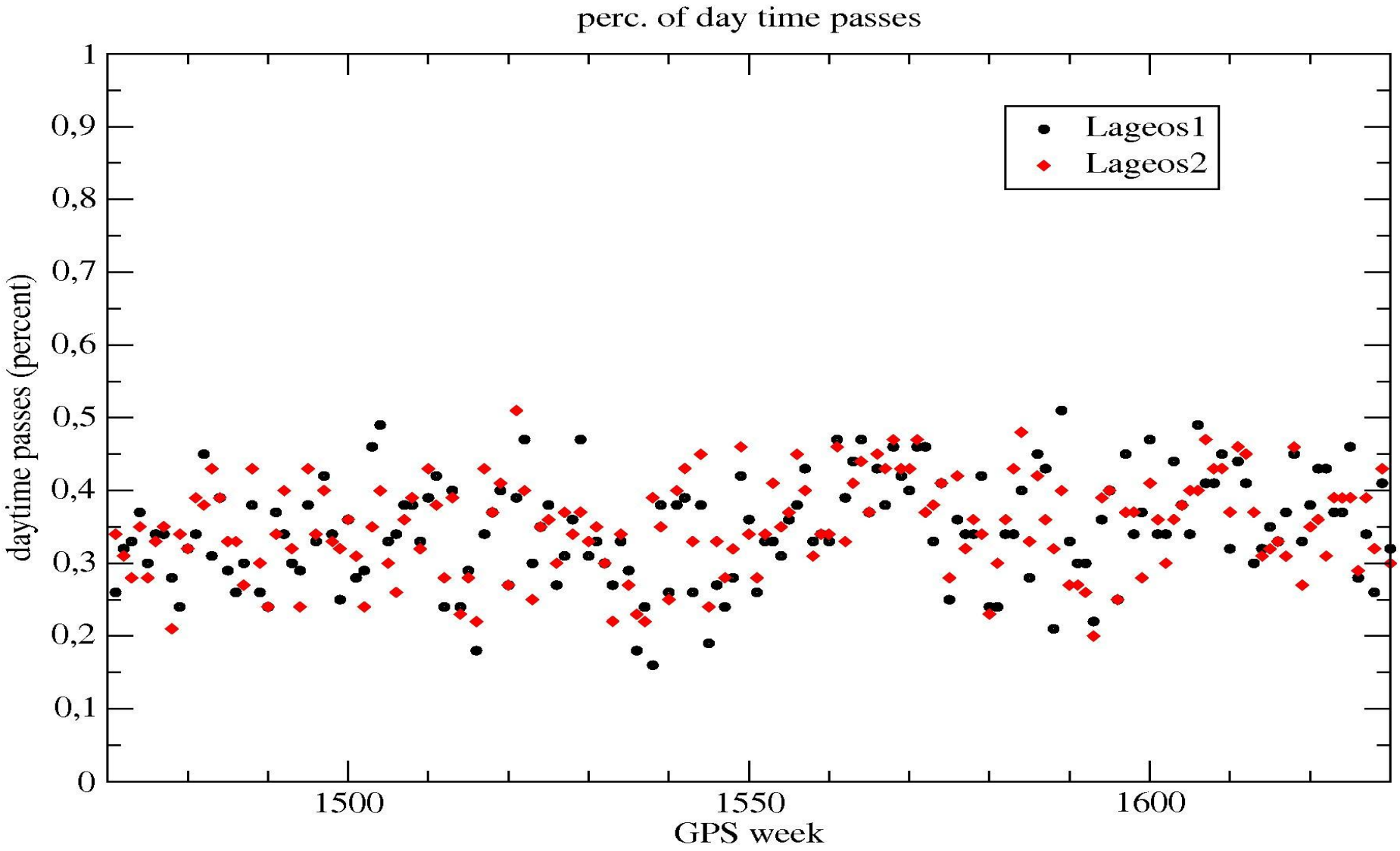
Day vs. Nighttime tracking



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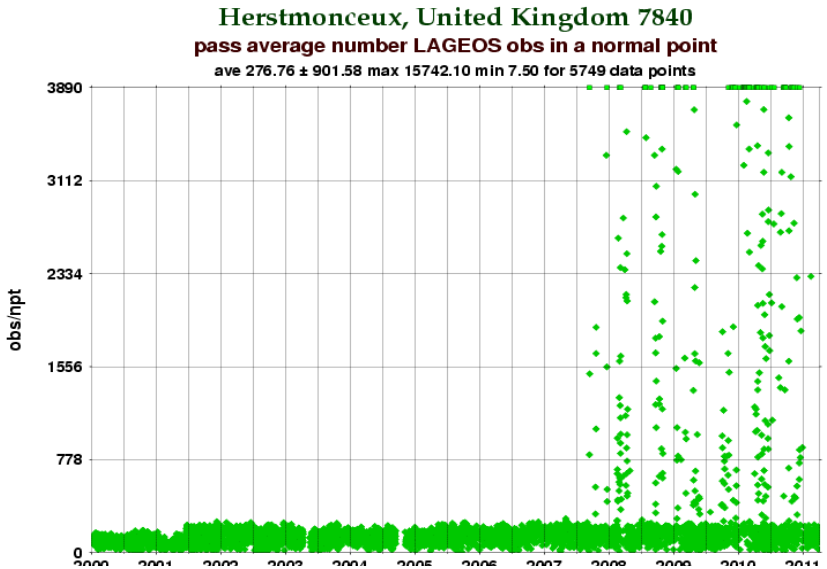
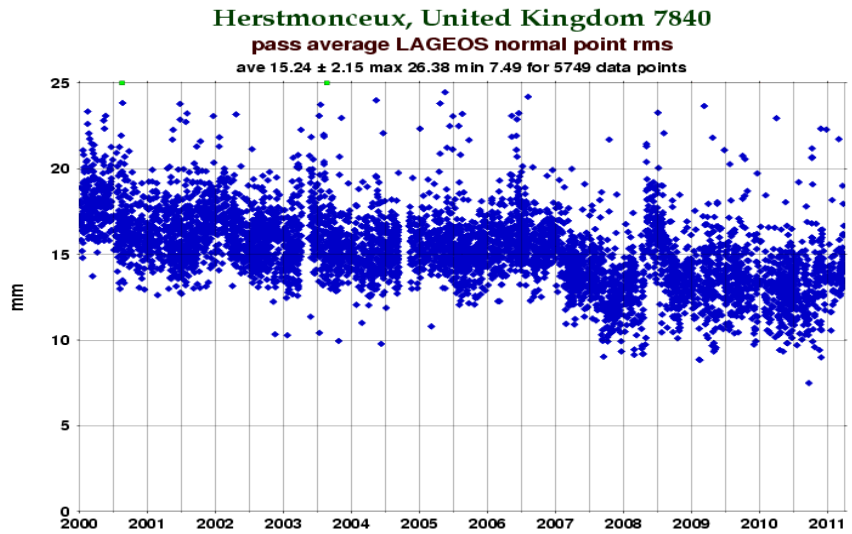
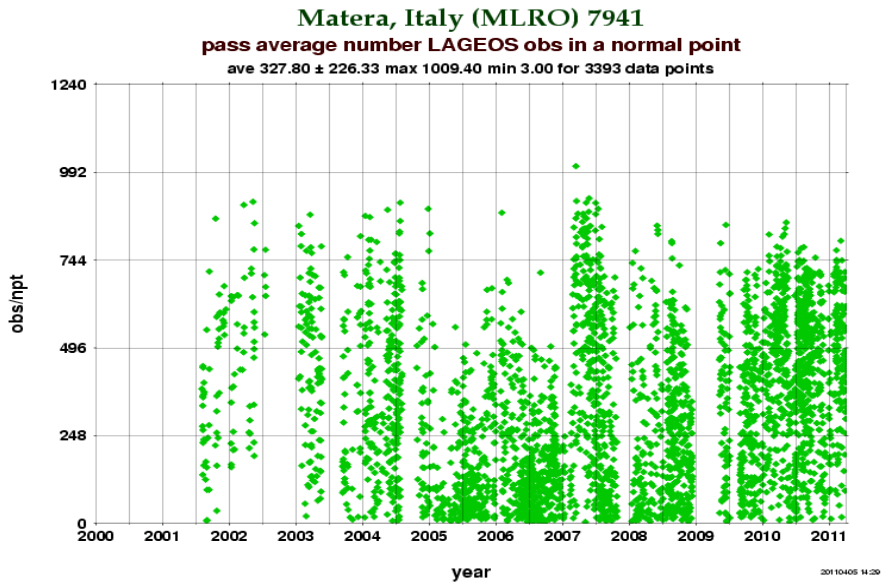
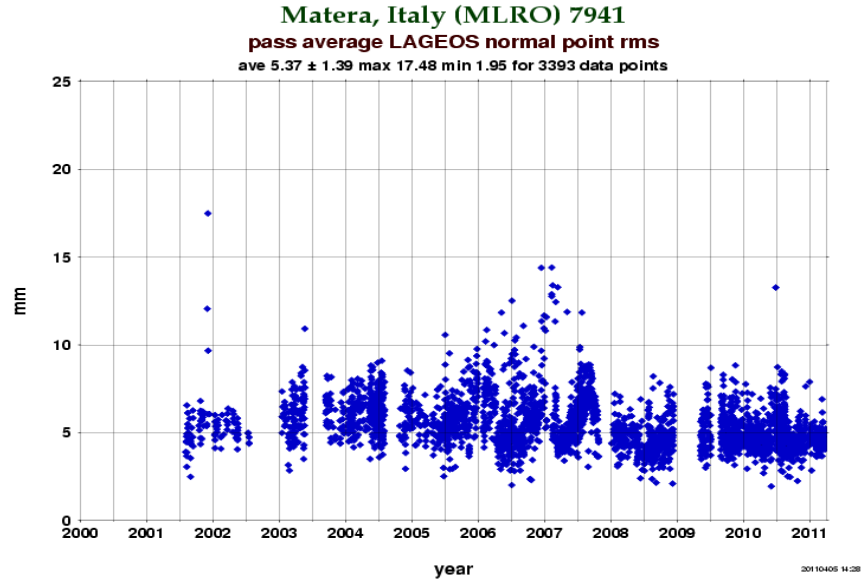
Station statistik









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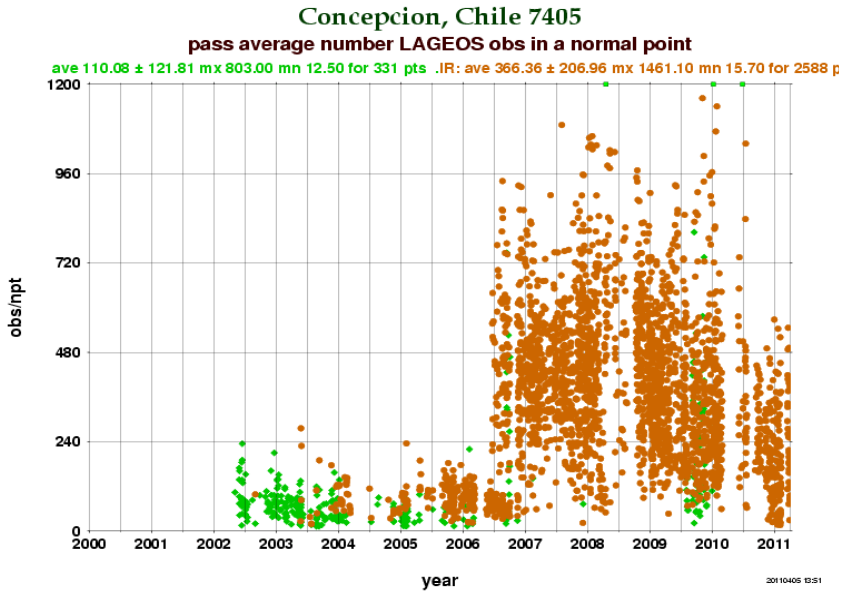
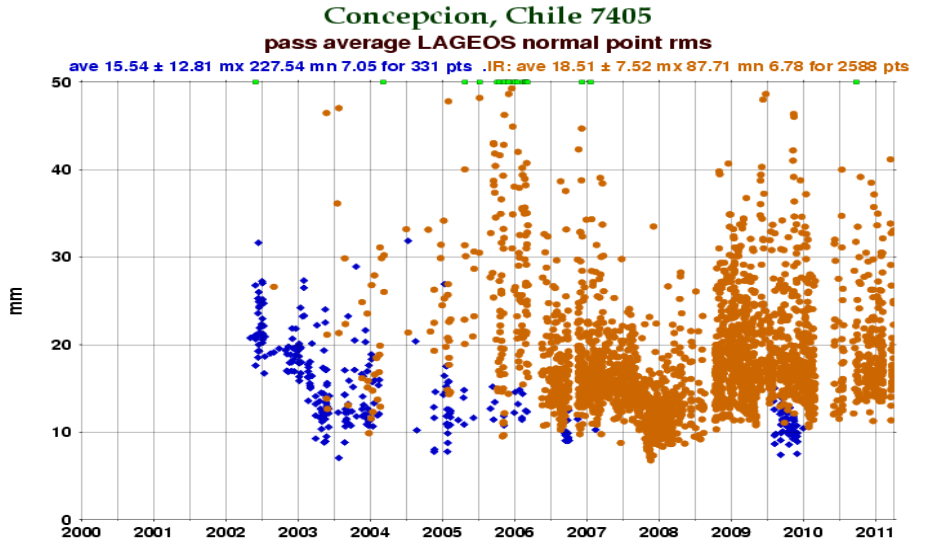
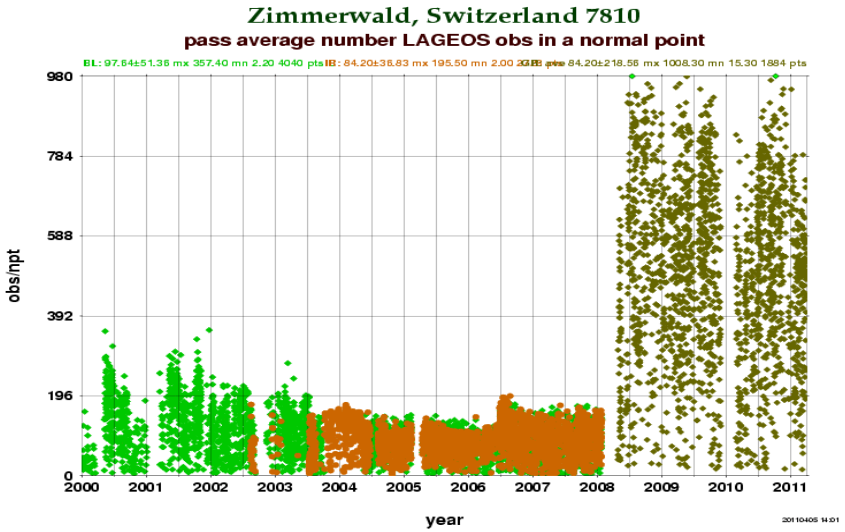
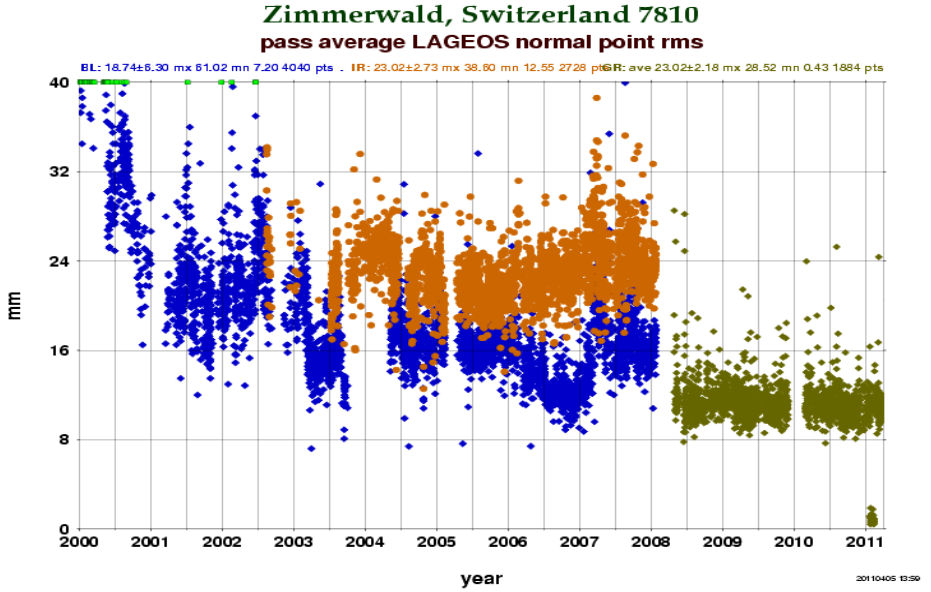
Station statistik









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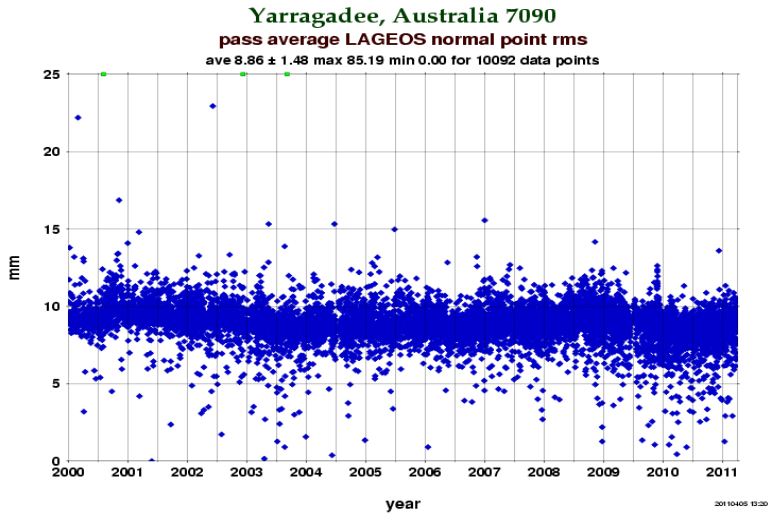

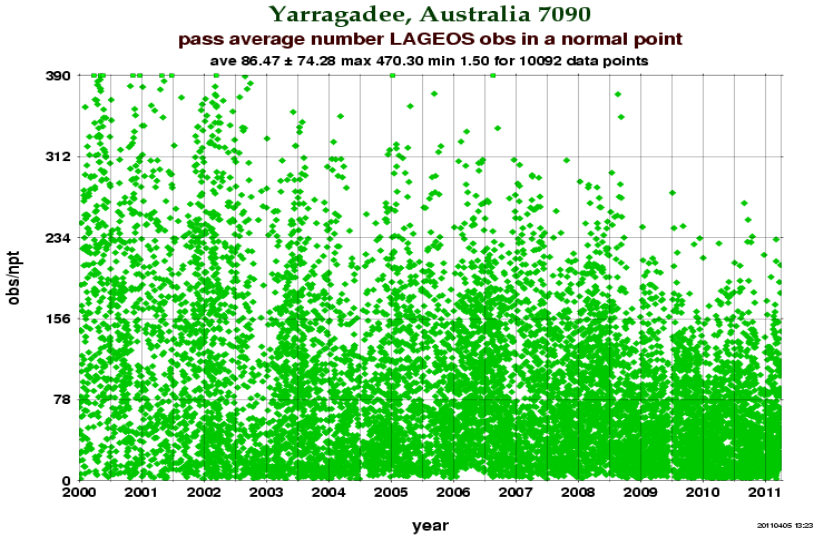

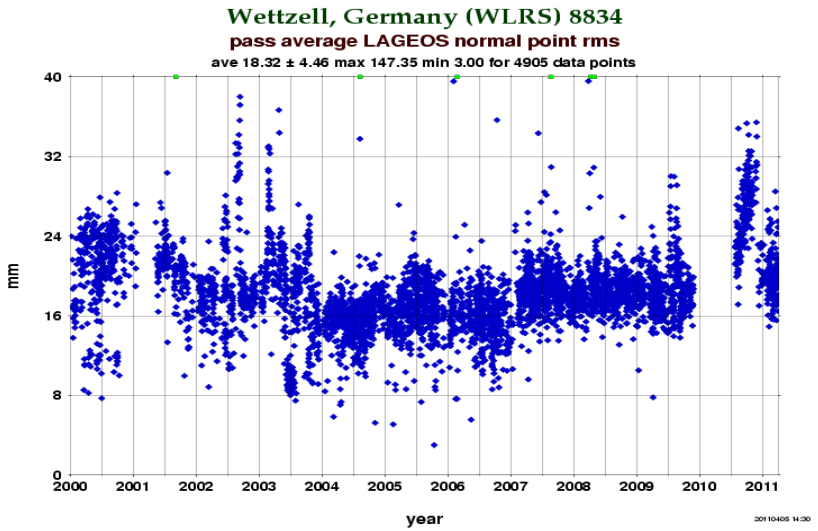

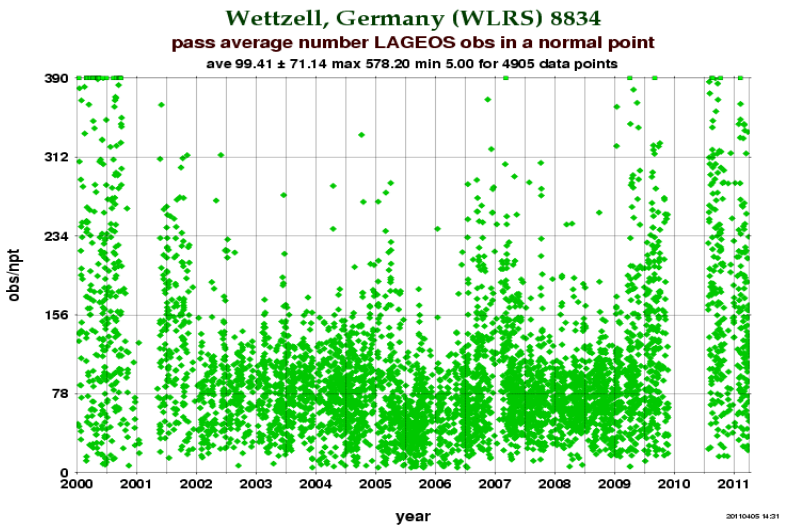

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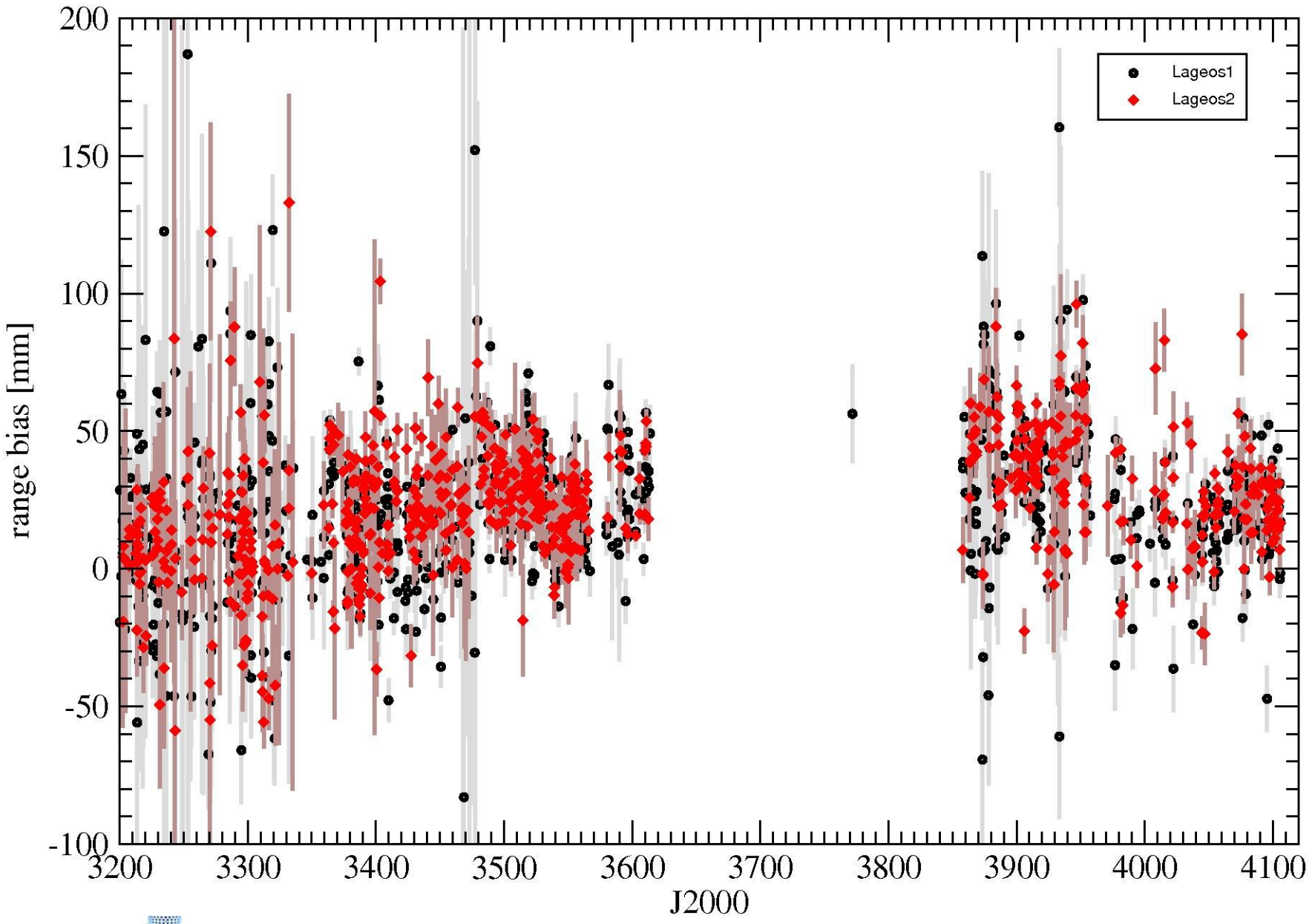
Station statistik Wettzell range bias (2009 - now)



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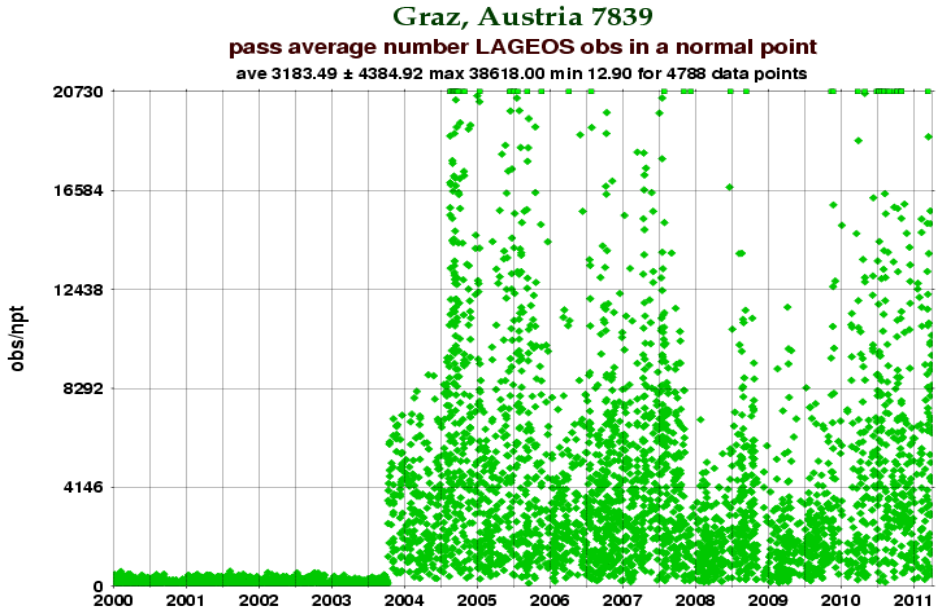
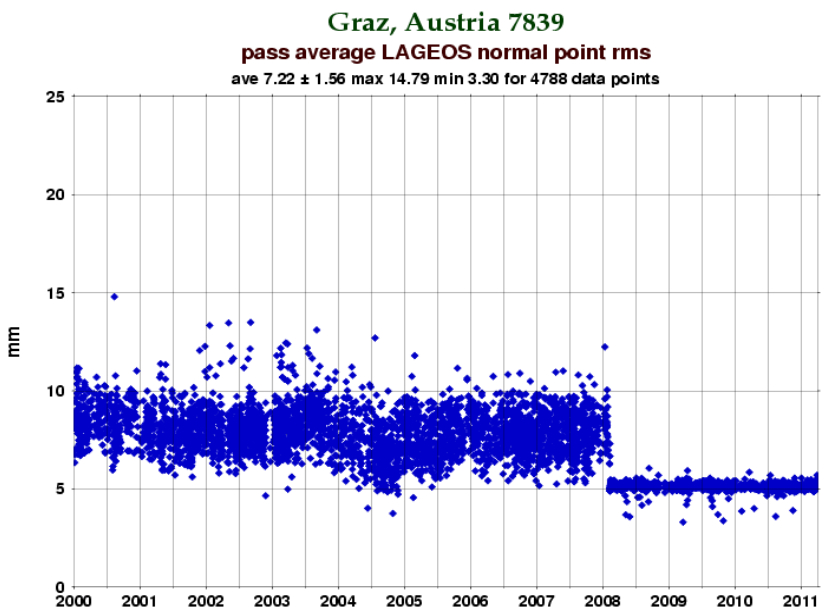
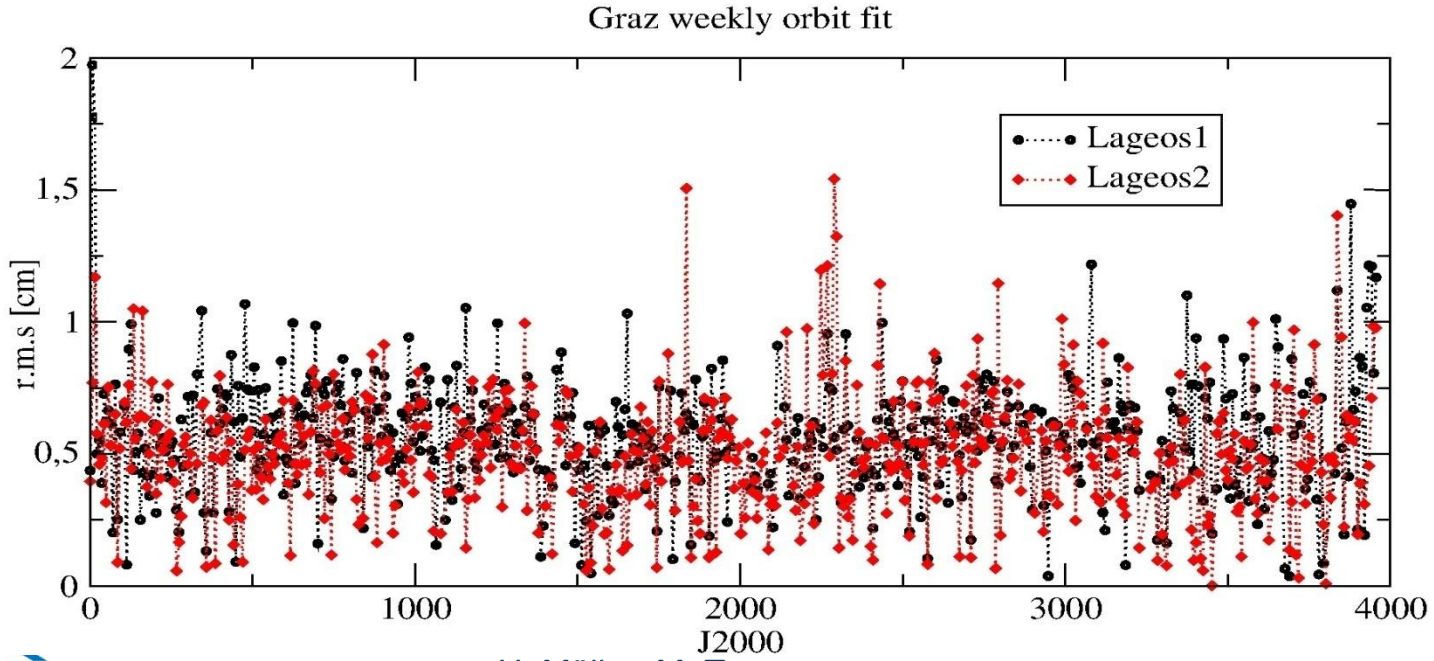
Quality of Khz systems, example Graz (7839)







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Weekend effect

Number of observation sorted by day of the week

(mid 2008 until last week)

	Lageos1/2	Etalon1/2
Sunday	57970	14662
Monday	71540	16541
Tuesday	78560	27326
Wednesday	77867	16055
Thursday	74395	18977
Friday	72067	11453
Saturday	60195	5058

Lowest number of observation every year around New Year

Stand: Nov. 2010

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Conclusions

- Quality of SLR is very good
- Coverage of Lageos orbits is quite good, Etalon tracking could be intesified
- No significant reduction of SLR stations and observation since 2000
- More Observations from southern hemisphere stations to Lageos1/2
- Contribution of Khz tracking is not significant in normal points, a redefinition of normal points should be considered
- A clear weekend effect con be identified