

Weather and Seeing Statistics

Nils Turner

29 February 2012 / CHARA Array Winter Meeting, Atlanta

Outline

- 1 Weather
 - What's New?
 - Stats
 - HuT vs. Bunker Station
- 2 Seeing
 - r_0
 - t_0
- 3 Infrastructure Changes
 - Computer Area Reorganization
 - Telescope Control

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Weather

- Telescope “HuT” sensors
 - Humidity and Temperature sensor is a single IC at the height of the primary
 - Separate server logs the information in a manner similar to weather stations

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Weather

– Uptime

	Cum.	2009	2010	2011
E1	93.9	95.7	96.6	98.9
E2	91.9	94.3	97.4	94.7
S1	94.4	95.9	98.2	96.8
S2	93.2	89.5	94.2	98.2
W1	95.5	93.8	99.4	97.1
W2	93.9	89.2	87.3	97.3
L1	82.0	99.0	90.9	47.0

Table: Weather station uptimes as a percentage of time.

Weather

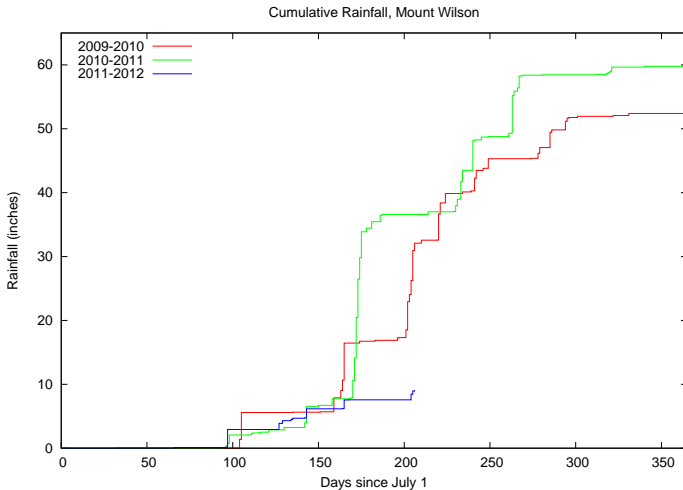
Cross-year Vital Stats

	2006	2007	2008	2009	2010	2011
Measurable Wind	14.0	12.9	16.2	19.2	23.2	30.4
High Wind [†]	0.4	0.8	0.2	0.2	0.7	0.5
High Humidity [‡]	18.1	10.9	14.0	16.5	21.6	18.2

Table: Table entries are percentages of time. Values quoted are the largest of the six bunker weather stations. † High wind is defined as being above 20 kph. ‡ High Humidity is defined as being above 90%.

Rainfall Amounts

– data courtesy of L. Webster



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- **HuT vs. Bunker Station**

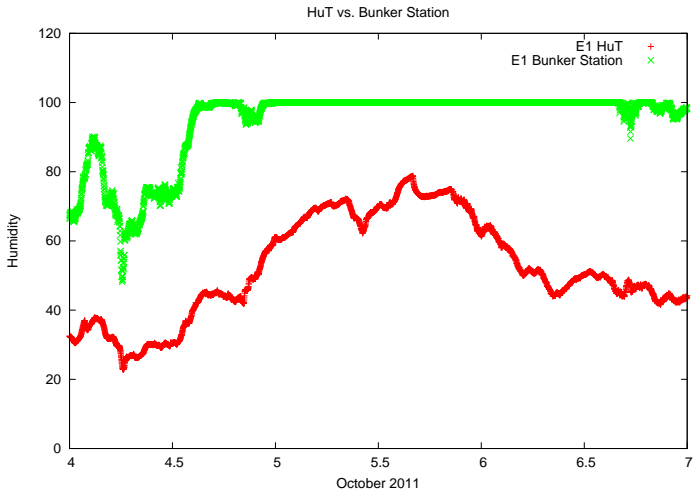
2 Seeing

- r_0
- t_0

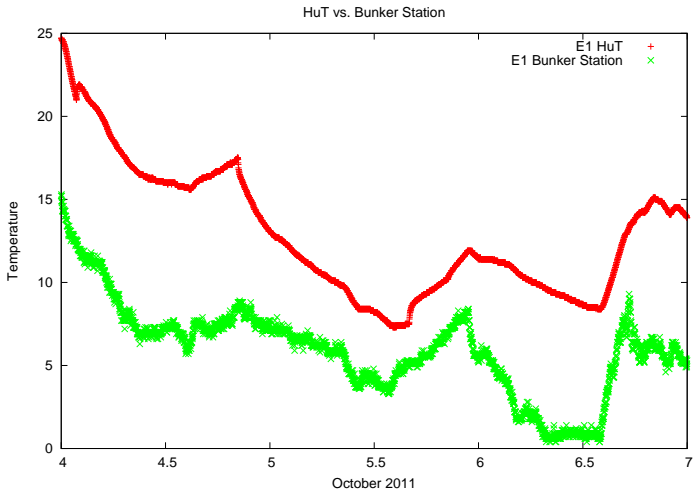
3 Infrastructure Changes

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Humidity



Temperature

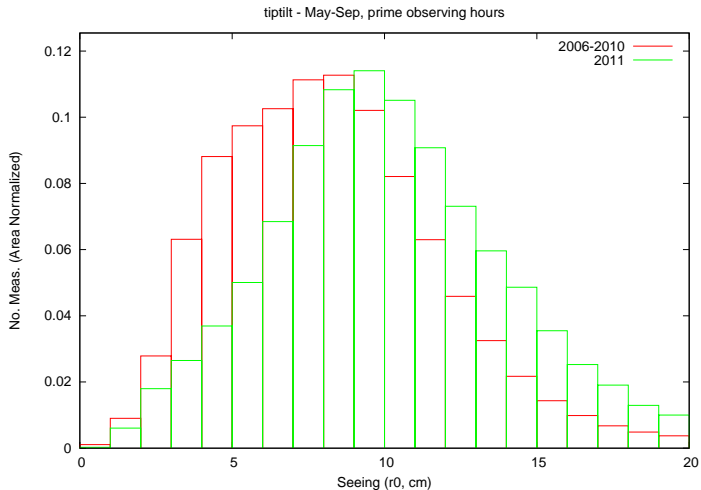


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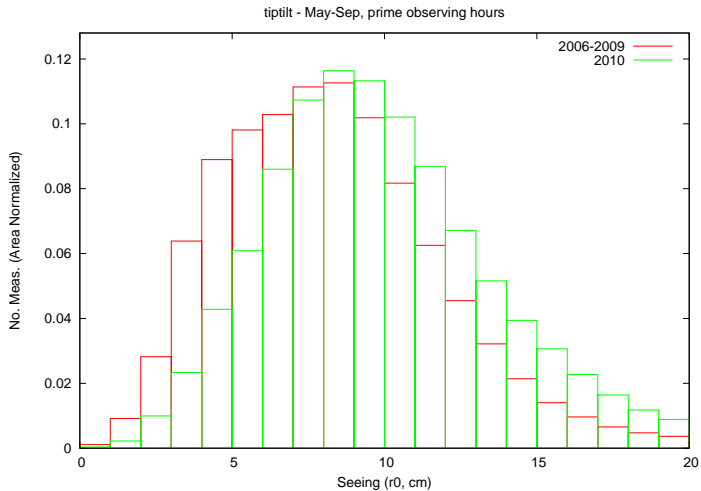
Seeing

2006-2010 and 2011, 2 to 8 hours after sunset



Seeing

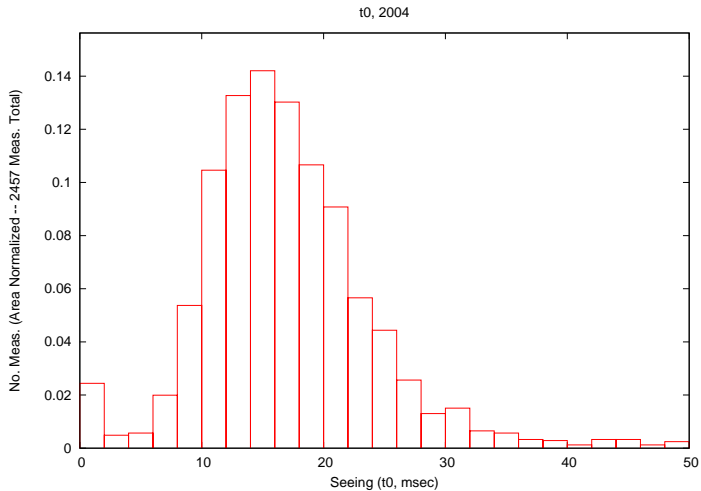
Last year's meeting



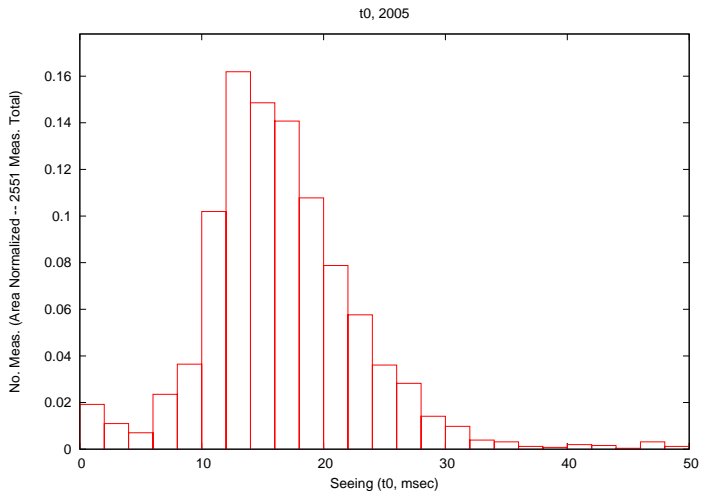
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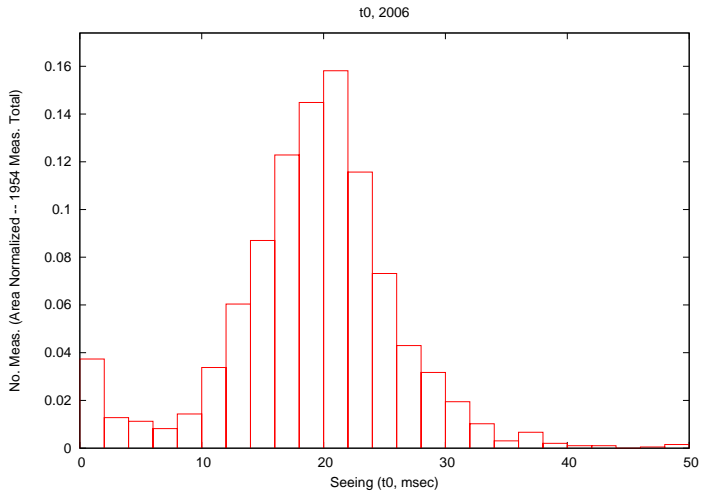
Seeing 2004



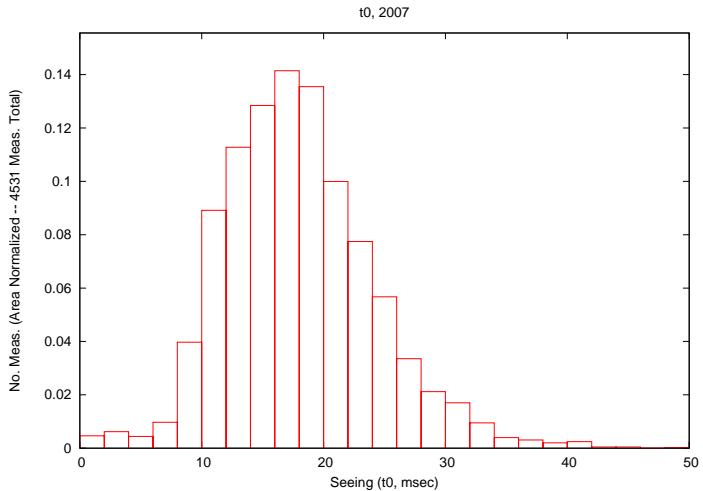
Seeing 2005



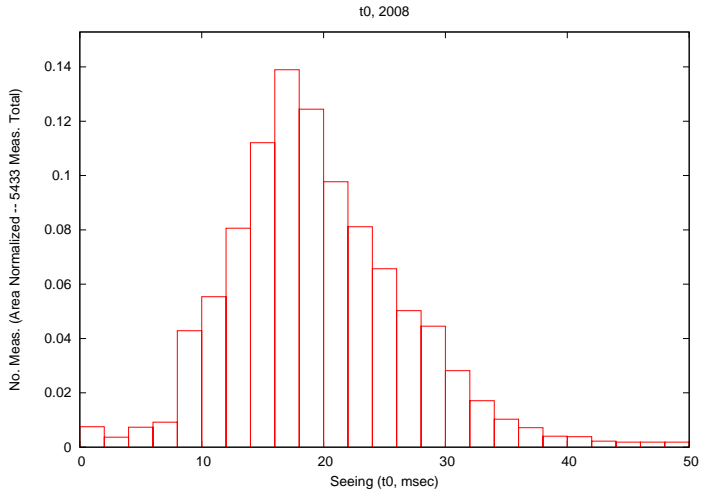
Seeing 2006



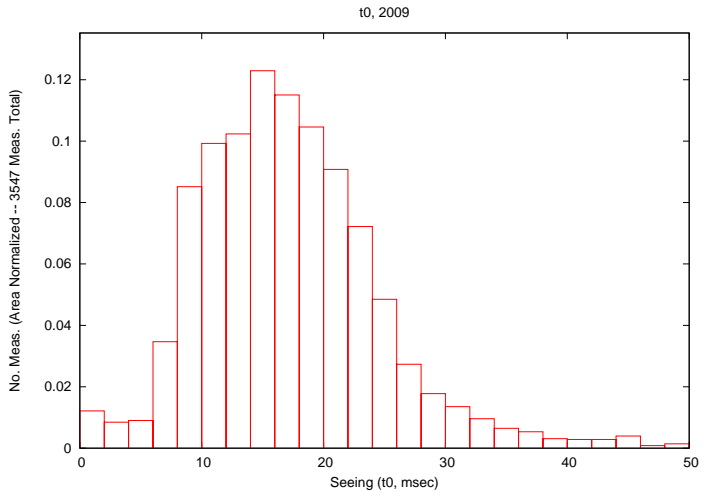
Seeing 2007



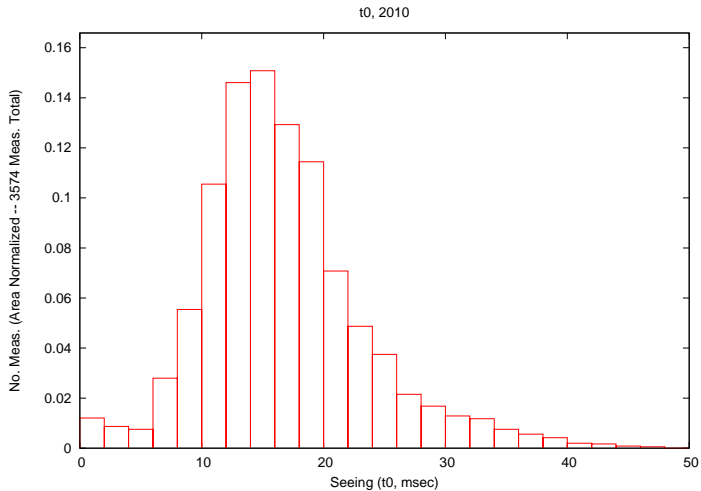
Seeing 2008



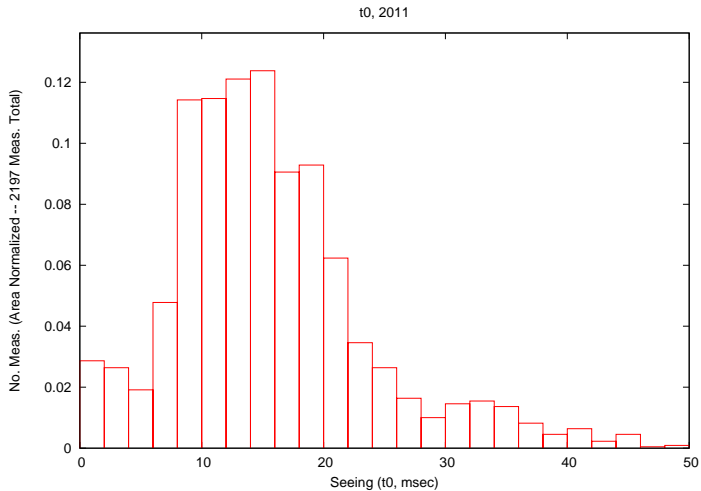
Seeing 2009



Seeing 2010

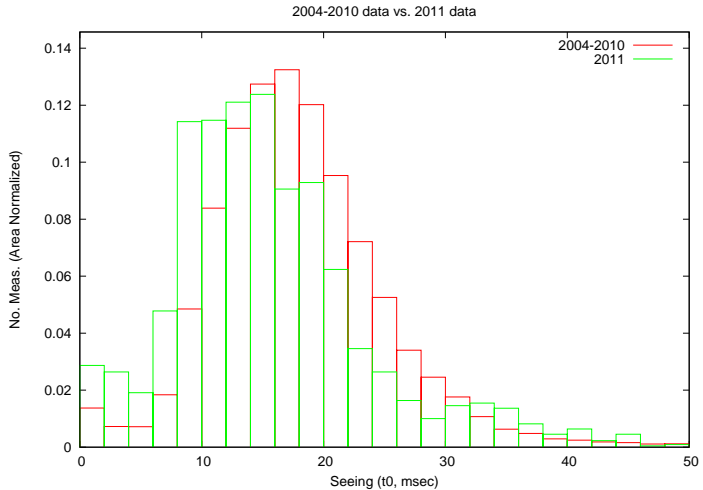


Seeing 2011



Seeing

2004-2010 vs. 2011



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Computer Area

– Last Year's Plan

- Expand the KVM switch to remove the monitor/keyboard clutter
- Move the fiber panel out of the racks to improve rack accessibility
- Improve electrical distribution – too few circuits
- Upgrade racks
- Move the control system to gigabit ethernet

Computer Area

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Computer Area

– Still To Be Done

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TCS Replacement

Process nearly complete

- In regular use with S2
- Other 5 boxes built
- Hope to have installed before the start of Spring observing

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