

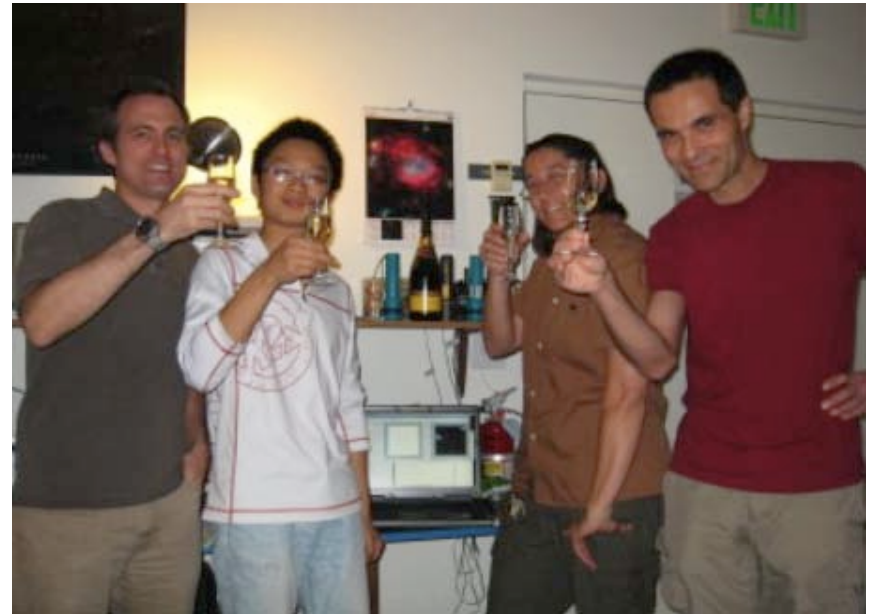


# Observers Reports 2009

P.J. Goldfinger  
CHARA



Epsilon Aurigae campaign



Xiao completes photometric channels for MIRC



# Observing Protocol

- To assure the Highest Quality of scientific output possible for the PI's .
- The Observing Specialist has full responsibility for night-time operation of the Array/Observatory and related observing systems.
- To continually evaluate the Array system status, including environmental control functions and schedules of the targets to be observed.
- Ensure safe use of the instruments and systems during remote observations - We are watching !!!
- Added extras such as **Chocolates** from around the world and cans of **Pringles** to the Night Assistants were appreciated ;-)



# Top Music Selections while Observing

- Need you ask, well you should know... Frank Zappa , as certain Array Systems are named in Honor of him !!
- Secret Agent Radio – Keeps us awake !!!
- Various industrial or idling Spaceship sounds bouncing off the 100” dome echoing through out the Mtn top.
- Radio Déliro – A lovely blend of old classics of all styles with a French touch !!!
- NEWS FLASH: Scientist and Night Assistant seen doing Aerobics - to Proton Radio – this is out of control !!!!
- Dr. Irelands groovy music choices.
- What happened to Gerard’s bad 80’s songs ?



# New Control Systems and Combiners

- Cosmic Debris – Control Sequencer.
- Ople Tab – GUI that combines cart control and data acquisition.
- S2 Dust Monitor – A personal favorite.
- Aperture Wheels – Fancy !!
- Newest Baseline Solutions.
- We are Beam Combiners Galore – All up and running !!! - Plus CLIMB on its way !!!
- Me running the Array  
Dig the oval monitors ->





# Remote Observation Weirdness

- All configured telescope domes rotating 180 degrees out needing a TCS restart – with 4 to 6 telescopes a TCS restart can take 1.5/2hrs.
- All configured telescopes slewing to strange positions or previous offsets.
- Bandwidth in running a 21Million dollar astronomical instrument across the continents and vast oceans of the world – but a large – “Oh Wow !!” - Factor

## Solutions:

On-site operator does star acquisition sequences or controls needed systems





# Observing Statistics 2009

Based on Nightly observing reports

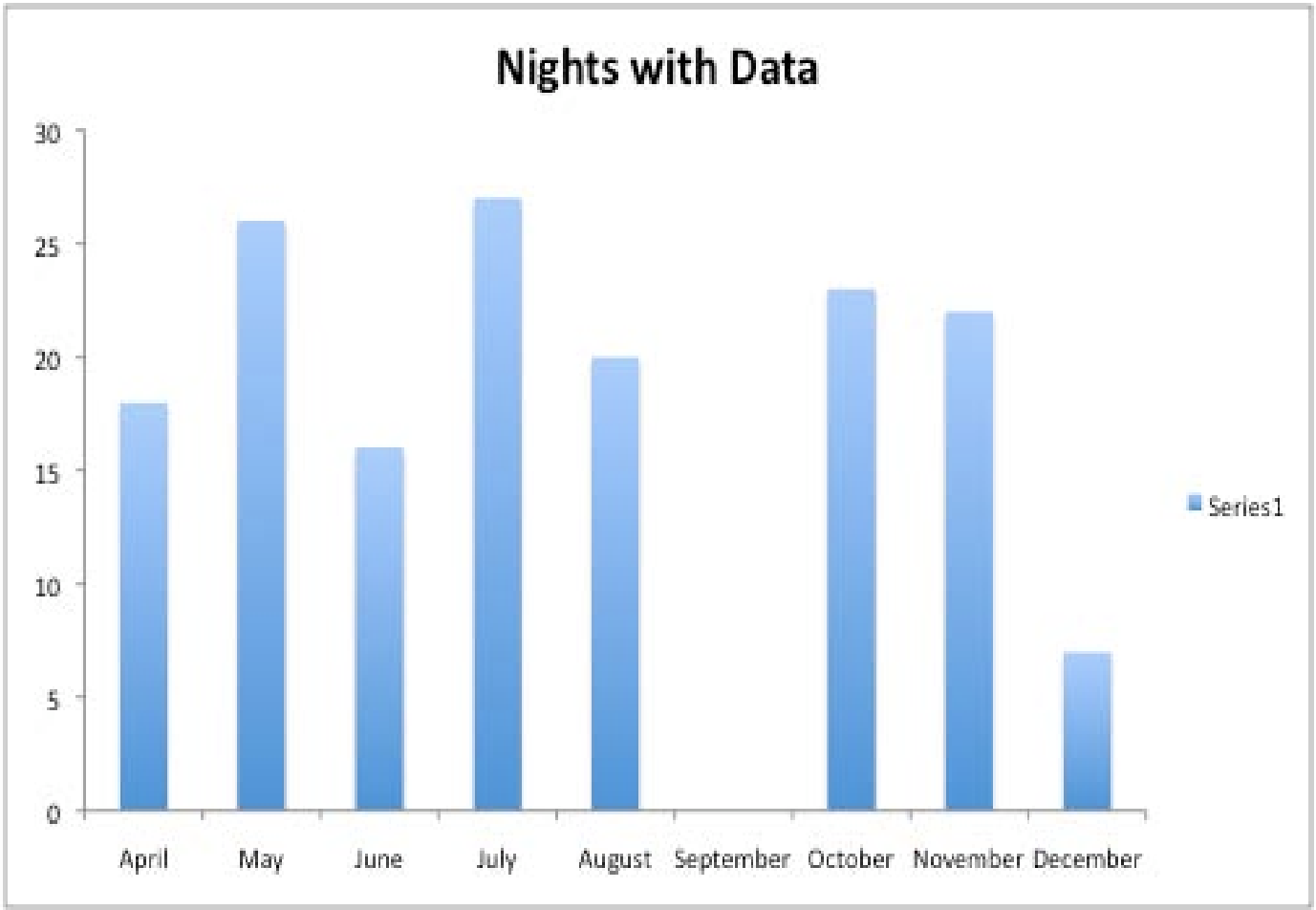
- Nights of attempted observation annual review:
  - 2006 = 200 nights
  - 2007 = 212
  - 2008 = 269
  - 2009 = 231, the loss of 36 days due to the Station fire
- The most prevalent issues were
  - The Station Fire
  - Fluctuating Metrology signals
  - VME crashes
- \* **Problems Solved** – except...
  - Remote Observation Weirdness !!! – Who can we blame ???



# The Winter 2007 Observation Attempt

- About 45 Nights attempted
- 16 nights of data was gathered
- 29 nights weather prevailed

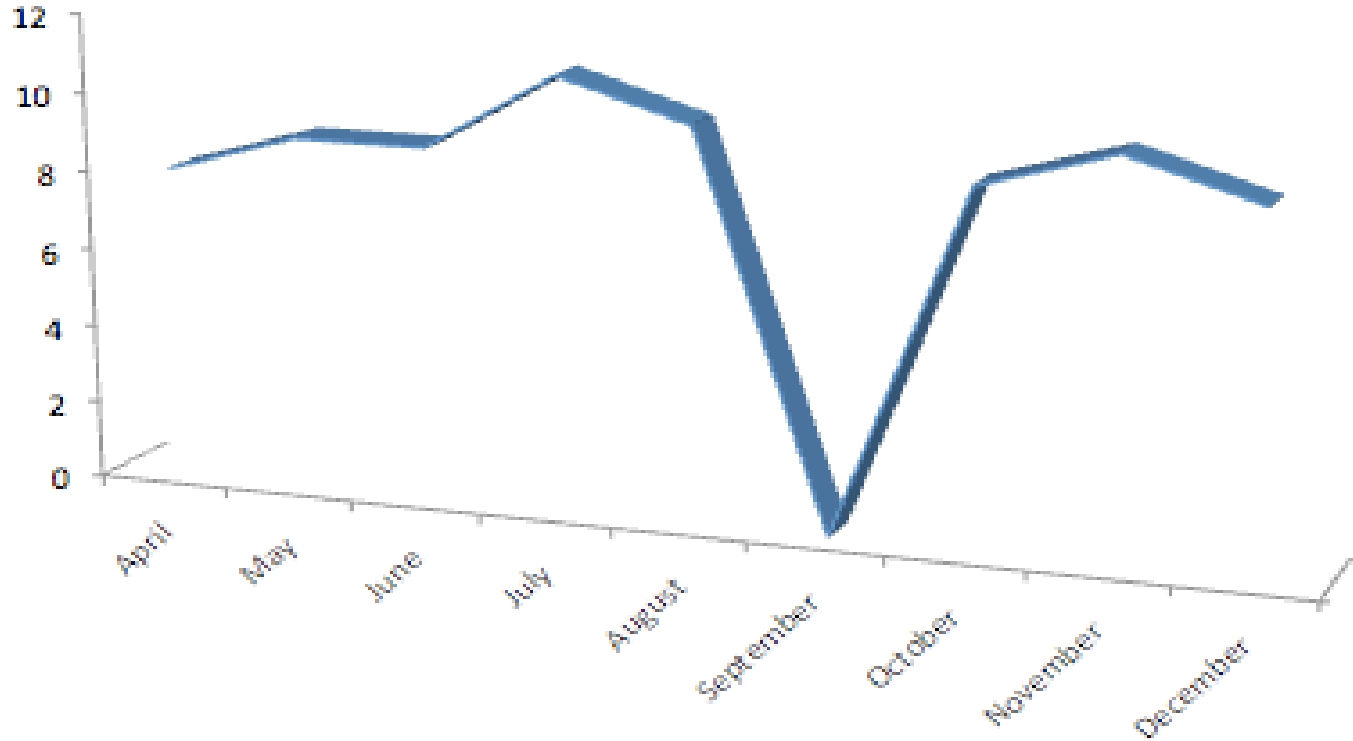








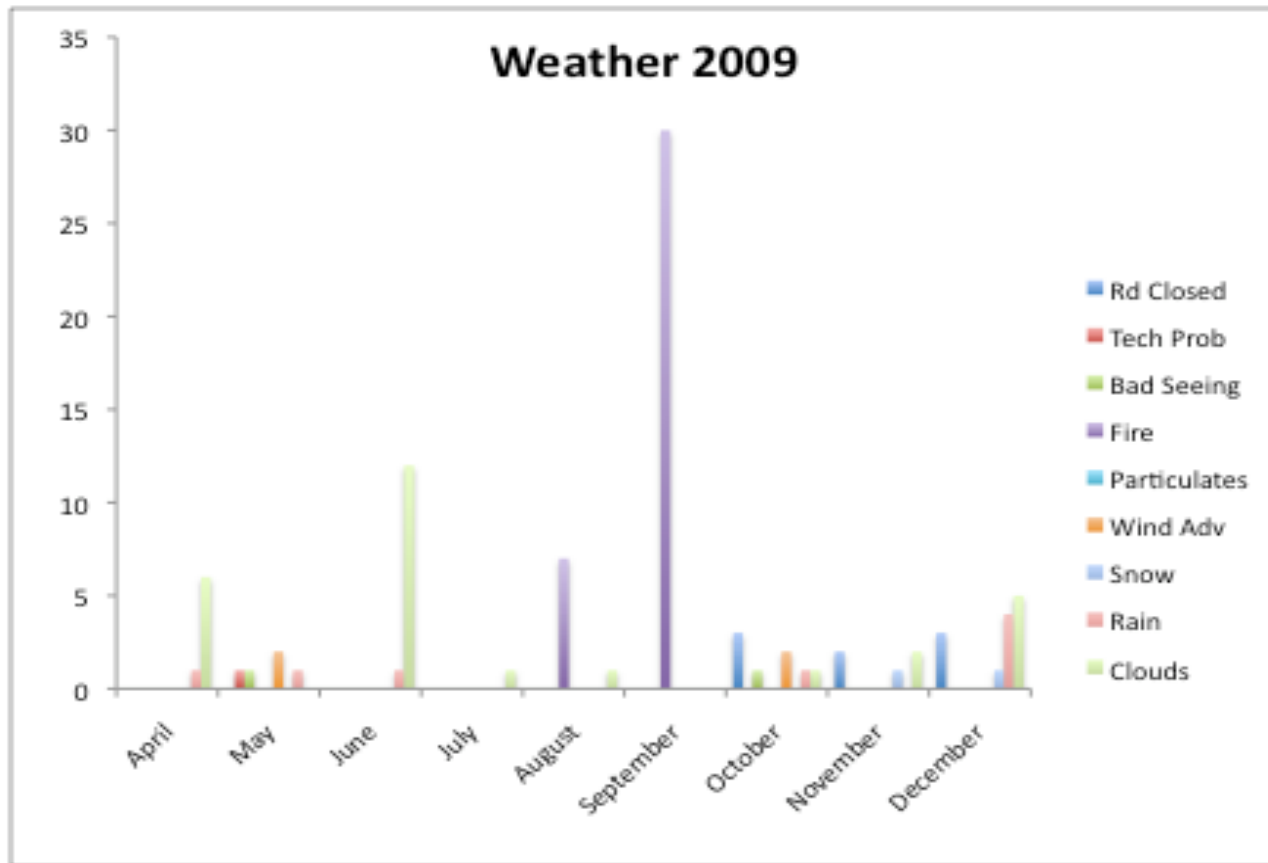
# Seeing Averages





# The Chara Observing Slang-Vocabulary

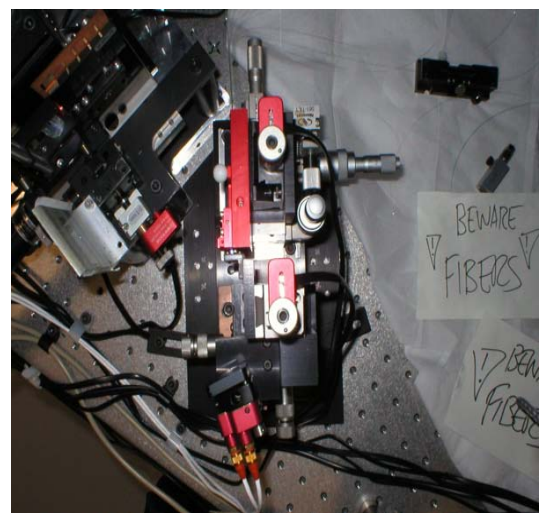
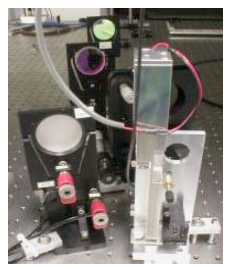
- “Getting DayTah” = Data, Deepak
- Watch out for those “Rattle Bears” Nils Turner
- “Is this a wiggly bottom moment” Theo ten Brummelar
- “There was Yeti spotting out at S1” Larry Webster
- “I saw a piece of dust heading out to W1” JDM
- Some pertinent piece of equipment has gone ...WACKY or “legs up”
- W-H-A-aaa-T..... means disturbing or unbelievable
- What the Fluxxxx ? !!!! – Ettore Pedretti
- The Hungarian hand signal for ringing one’s neck – Complete with cracking bone sounds !!!
- Just Click REOPEN on everything !!!





# Need I remind you -Array Initialization 2009

- Over **4000** pieces of Hardware, Software and Equipment need to be started and shutdown each observing session with six beams.
- Does not include technical problems !!!



```

thao@medcal:chara-arp.org: /zchara/thao
Load In: 00:11:48  [1]  [2]  [3]  [4]  [5]  [6]  [7]  [8]  [9]  [10]  [11]  [12]
Shape In: 00:11:48  [1]  [2]  [3]  [4]  [5]  [6]  [7]  [8]  [9]  [10]  [11]  [12]
Lent Sac: 0 0000000 0,000 0,000 0,000 0,00 0,0 0,0 0,0 0,0 0,0 0,0
Lent Spc: 0 0000000 0,000 0,000 0,000 0,00 0,0 0,0 0,0 0,0 0,0 0,0
Lent Fall: 0 0000000 0,000 0,000 0,000 0,00 0,0 0,0 0,0 0,0 0,0 0,0
Wave Len: 0 0000000 0,000 0,000 0,000 0,00 0,0 0,0 0,0 0,0 0,0 0,0
Period: 5
Max rev: 5000
Low filr: OPEN

MENU:
Current menu: PMSN
Previous menu: None
Menu Depth: 0
C?: Help
S?O?S?P?E?D: Previous menu
C?: PMSN menu
F1: Socket control menu
F2: Standard Control menu
F3: Utilities Menu
F4: Jitter control menu
F5: Servo tuning menu
F6: Report menu
F7: Signal control menu
F8: Serial control
F9: Shutter control menu
F10: Quit system

```





# Alternative Observing Scenarios

- The Q is still available for use, Although not much time due to multiple beam combiners running.
- Inquire about substitute observing modes.
- Choose Targets that are in different parts of the sky.
- Have targets ready for capricious weather conditions.  
ie: Bad seeing ,wind. A bright source would be better.
- Time Saving - Pre Check for background stars in the star fields.



# Array Functionality

- The Array *Still* works best whenever Theo calls or is Observing.
- At times the Array systems will mysteriously act up when the Sturmanns leave for the evening.
- More stable after being static for long durations, First night on sky after the Station Fire we were winning = getting data !!!
- Chris fires up the Array while alone on Mtn Top after 3 months and gets offset positions for MIRC and The epsilon Aurigae campaign – Go CF !!!
- Doing **inner and outer Array configurations** with MIRC while other observers run remotely - Great –





# 2009 Observing Memoirs/Confessions and or Observational Mishaps

- Grouchy Observers go into click-itis with the REOPEN button to agitate certain staff who check these files.
- Staff while in route to and from Mtn escaping storms in the nick of time others not so lucky. Breaking into the Angeles Crest Fire Station was fun. I was a Damsel in distress !! They had a hugonic flat screen TV !!
- One of the Ople carts was found with the back wheels off the track – A silly mishap !!!
- Dr. McAlisters Blog.





# Peak to Peak



LESIA



Observatoire de la CÔTE d'AZUR



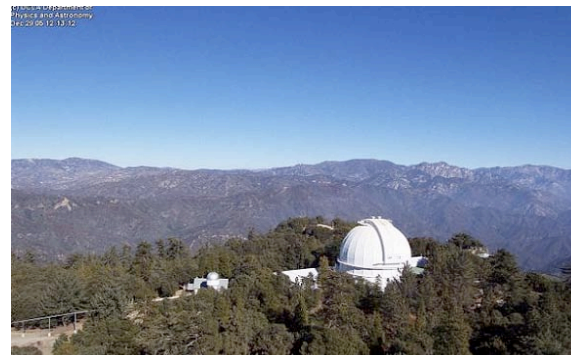
# The World's 7 Deadly Plagues

- **Rome:** According to The Pope these disasters threaten the future of humanity
- Insidious terrorism capable of striking at anytime and anywhere
- The unresolved problem of the Middle East, The turmoil disrupting South America, Also conflicts of Africa. Diseases, famine spreading and death
- The irresponsible behavior contributing to the depletion of the planet's resources.



> **Additions:** WAIT - Don't forget about Mount Wilson:

- Fire
- Mud slides, rock slides, dry slides
- Or An EVENT – Of some sort !!!!







# Thank you for your Acknowledgment

As your Array Technician and a Paper Hanger



ANGULAR DIAMETERS AND EFFECTIVE TEMPERATURES OF 25 K GIANT STARS FROM THE CHARA ARRAY

ELLYN K. BAINES<sup>1,6</sup>, MICHAELA P. DÖLLINGER<sup>2</sup>, FELICE CUSANO<sup>3</sup>, EIKE W. GUENTHER<sup>3</sup>, ARTIE P. HATZES<sup>3</sup>, HAROLD A. MCALISTER<sup>4</sup>, THEO A. TEN BRUMMELAAR<sup>4</sup>, NILS H. TURNER<sup>4</sup>, JUDIT STURMANN<sup>4</sup>, LASZLO STURMANN<sup>4</sup>, CHRISTOPHER D. FARRINGTON<sup>4</sup>, AND STEPHEN T. RIDGWAY<sup>5</sup> **P. J. GOLDFINGER<sup>4</sup>**

## IMAGING AND MODELING RAPIDLY ROTATING STARS: $\alpha$ CEPHEI AND $\alpha$ OPHIUCHI

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LESIA



Observatoire de la CÔTE d'AZUR



# CHARA Information

- Visit the CHARA web site under User's Info for operational procedures, site information and other documents at:
- <http://www.chara.gsu.edu/CHARA/data/>
- Log in info required, if needed please inquire