



# Monthly Notices of the Everglades Astronomical Society



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## President's Message

It's finally the start of a new season! Charlie has a number of great programs lined up for us this year. Fairly quick now the temperature will go down a bit, the clouds will clear and we will have good viewing weather at the Fakahatchee.

The Winter Star Party registration will open soon, if it hasn't already - get your tickets early!

**We need a new newsletter editor! If you are interested please contact me. It's not really as hard as it looks!**

## Dates for the "Fack"

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

| Date   | Moonrise | Moonset |
|--------|----------|---------|
| Sep 8  | 12:14AM  |         |
| Sep 15 | 6:39AM   |         |

## Sky Events

Sep 8 - Last Quarter  
Sep 16 - New Moon  
Sep 22 - First Quarter/ Equinox  
Sep 29 - Uranus at Opposition  
Sep 30 - Full Moon

## Next Meeting

Sept 11, 2012  
Time 7:00 – 9 pm  
At the Norris Center, Cambridge Park

## Astronomical Trivia Question of the Month

A typical noontime temperature in Florida is 305° Kelvin.  
What is a typical noontime temperature for Pluto?

a) 4° K

b) 55° K

c) 107° K

d) 215° K

*Answer on next page.*



## A Brand New Age: Queue Observing at Mt. Paranal

By Dr. Marc J. Kuchner

First a caravan of white observatory cars arrives, winding up the narrow road to the 2600-m- (~8500-foot-) high summit. Then the shutters around the domes open, and rays from the setting sun alight on colossal mirrors and metal struts. It's the beginning of another busy night at Mt. Paranal, Chile, where I am learning about new, more efficient ways of managing a modern observatory.

I stepped into the observatory's control room to soak up some of the new, unfamiliar culture. Here, under florescent lights and drop ceilings are banks of computer screens, one bank to control each of the four big telescopes on the mountaintop and a few others too. At each bank sits two people, a telescope operator and an astronomer.

The layout of this workspace was not unfamiliar to me. But the way these Mt. Paranal astronomers work certainly was. When I was cutting my teeth at Mt. Palomar observatory in California, I would only go to the telescope to take my own data. In stark contrast, everyone observing at Mt Paranal tonight is taking data for someone else.

The Mt. Paranal astronomers each spend 105 nights a year here on the mountain performing various duties, including taking data for other astronomers. The latter, they call "executing the queue." Headquarters in Germany decides what parts of the sky will have priority on any given night (the

queue). Then the Mt. Paranal astronomers march up the mountain and carry out this program, choosing calibrators, filling the log books, and adapting to changing conditions. They send the data back to headquarters, and from there it makes its way out to the wider astronomical community for study.

This new way of working allows the Mt. Paranal astronomers to specialize in just one or two telescope instruments each. Surely this plan is more efficient than the old-fashioned way, where each of us had to learn every instrument we used from scratch—sifting through manuals at 3:00 AM when the filter wheel got stuck or the cryogen ran out, watching precious observing time tick away. Here at Mt. Paranal, much of the work is done in a big room full of people, not off by yourself, reducing some dangers of the process. Also, queue observing cuts down on plane travel, an important step for cutting carbon emissions.

It's a brand new age, I thought as I watched the giant domes spin in the silent, cold Chilean night. And maybe with queue observing, some of the romance is gone. Still, my colleagues and I couldn't help saying as we stared out across the moonlit mountains: I can't believe how lucky we are to be here.

*Dr. Marc J. Kuchner is an astrophysicist at the Exoplanets and Stellar Astrophysics Laboratory at NASA's Goddard Space Flight Center. NASA's Astrophysics Division works on big questions about the origin and evolution of the universe, galaxies, and planetary systems. Explore more at <http://www.science.nasa.gov/astrophysics/>. Kids can explore these topics at <http://spaceplace.nasa.gov/space>.*

### **Answer to Trivia Question**

The answer is b: 55°K. The temperature is thought to go as low as 33°K at night. For those of you more familiar with degrees Fahrenheit, the highest temperature of Pluto works out to be 361 degrees below zero.

