

NEAR From Rockland Observatory

by comets

The NEAR spacecraft was observed in two ways from Rockland Observatory: 1) The predicted NEAR sunglint was video recorded along with WWV audio signals which were received during the event. The camcorder recorded from 6:18 UT until 6:58 UT. The long lead-in was to allow the camcorder motor and gears to come up to temperature by the time of the glint (predicted at 6:38). The long period of recording afterward was to allow the sole observer a chance to observe the spacecraft for sometime telescopically. The camcorder worked normally throughout the period despite concerns about the temperature.

Approaching the time of the NEAR sunglint, both Nu and Delta Persei can be seen on opposite sides of the playback monitor. Nu Persei is only slightly above the limit of detection of this camera, but is unmistakable; Delta is somewhat brighter and quite apparent (fiddling with the TV contrast and color settings was very beneficial here). The NEAR spacecraft is visible for several seconds along its predicted position. The peak time of the glint is roughly 6:39:24 UT; the tape is good enough that this time could easily be refined with the proper equipment and methodology. The NEAR spacecraft achieved a peak brightness only slightly greater than Delta Persei, and was in no way anything close to the brightness of Capella. This was expected, as Rockland Observatory lies on the edge of the predicted glint ground path.

2) I observed the NEAR spacecraft telescopically from 6:36 UT until 6:57 UT. The instrument was a 4.5" f/7 Newtonian. The spacecraft was seen at approximately 8th magnitude, immediately upon locating the field. The time of the sunglint was recorded on the tape to within approximately one second, and the tape does not provide any improvement over the video recording in this regard (WWV was recorded before and after, but not during, the observations). Several comments about changes in brightness are made on the tape throughout the observation period, and the spacecraft was followed until it became too dim to see and stayed that way for ~ 90 seconds (lost to dimness, and motion rendered the probability of recovery remote).

Disappointingly, there were no sharp secondary changes in brightness to record, nor were any stars occulted (I did not expect an occultation, but one can always wish).

Rockland Observatory is at -110 15 40 and 31 30 52 north latitude. The temperature was 38 degrees, and there was no wind at ground level. Seeing was "3" on a 1-5 scale, one being worst seeing. The naked-eye limiting magnitude was only 5.8 - we had some cirrus at sunset and I believe that the humidity stuck around to kill the transparency. Ephemerides were generated at the Minor Planet Center Website, and at the NEAR website.

STS-89 Launch "Shuttle Glory" Observed

by joe3

I live about 20 miles southwest from Kennedy Space Center and Pad A where STS-89 Endeavor was launched on Thursday, January 22, at 2147 EST. I was standing in my front yard watching the launch over a low tree line. The Shuttle passed through a thin layer of haze then a layer of a few broken and scattered small clouds. Later, I timed these layers by watching the launch replays on NASA

Select. About 20 seconds after liftoff the Shuttle passed through the first layer, and at 38 seconds it passed through the second.

Around 25 seconds after lift off I looked around at the illuminated nighttime sky and noticed a bright patch of light high in the sky. This bright patch was not part of the scattered broken clouds and appeared to be moving towards me across the sky. I observed it about 10 seconds - it was triangular in shape with the apex pointing at the Shuttle. The Shuttle was about 30-35 degrees off the horizon. I could not estimate the distance from the Shuttle, but this patch appeared to be about 60 degrees from the horizon.

Given the short duration I had to observe, its length was hard to estimate but a guess would be about a thumb's width held at arm's length. The patch was about the width of a small finger and it was silver in color. I was immediately reminded of Sun Glories I've seen. While I observed this "Shuttle Glory" I saw small lines parallel to its base rapidly moving from the apex to the base. I couldn't count them; there must have been more than 10 distinct sharply defined ripples taking 1-2 seconds to move from the apex to the base.

I was disappointed when it faded and returned to watch the Shuttle just as it passed through the layer of scattered broken clouds. I believe this was a true "Shuttle Glory" caused by light of Endeavour's exhaust reflecting off the lower haze.

Another bonus and reward of working at KSC.

#### BYTES AND PIECES

Pizzle has just obtained a new 25" Obsession. Congrats, Pizzle! Nothing like a little aperture to put a whole new light on your observing sessions!

A little bird has told your editor that yet another sciastro-ite has succumbed to aperture fever and put in an order for an 18" StarMaster. Boy, this disease is really contagious!

#### INTRODUCING - sciastro.net!

Yes, folks; thanks in part to the proceeds from the t-shirt sales, we now have our own domain, "dedicated to the science of astronomy!" In addition to now having an address that is easier to remember and may therefore attract more newcomers to the web page, we also hope to expand the whole sciastro experience. We are offering web space to sciastro users for their personal home pages (NO commercial sites) at discounted prices, and YourNic@sciastro.net email addresses are also available. Check out <http://sciastro.net> for more details.

For the foreseeable future, both the old address for the website and the sciastro.net address will work. But please update your bookmarks and any www links to the new address.

A moment of silence for Mars Pathfinder: it was declared officially dead on March 10, 1998, at 1:21 PST. Rest in peace, Pathfinder - you did one helluva job.

#### CRAWLING THE WEB

Want the latest info on the so-called "killer asteroid" that had the media all a-twitter a few weeks ago? Check out <http://cfa-www.harvard.edu/iau/pressreleases/1997XF11.html> or

[ssd.jpl.nasa.gov/ca\\_97xf11.html](http://ssd.jpl.nasa.gov/ca_97xf11.html) This second site has plots showing possible positions and tables of all Earth close approaches between March 1990 and February 2029. Another site to check out for images of 1997 XF11, see <http://www.astro.washington.edu/deutsch/misc/asteroid>

For the latest info and images from Mars missions, check out <http://www.jpl.nasa.gov/marsnews>

To look at some of Bill and Sally Fletcher's breathtaking astrophotography, take a look at their site at <http://www.scienceandart.com>

DougB got some great solar eclipse shots - you can see them on his website at [http://bsd1.kode.net/~dougbock/members\\_pictures/bock/](http://bsd1.kode.net/~dougbock/members_pictures/bock/)

Here's a site with some great astronomy humor - <http://www.moonboy.com/sms/universe.htm>

This is a great site where you can vote and evaluate astronomy equipment - from telescopes to eyepieces to whatever. If you don't see the eyepiece or telescope you'd like to "vote" for on the list, it's easy to add. Go to <http://www.excelcis.com/vote/astro/index.htm>

For satellite visibilities and iridium flare predictions, check out <http://www.gsoc.dlr.de/satvis/>

This CCD image of M-13 was taken by Todd^. It is a two-minute exposure. Also take a look at his shot of the solar eclipse. This was a 1/60th second exposure through a 135 mm lens at f/4. Near the edge of the corona, you can see the faint circles of Mercury and Jupiter. WOW!