

The Objective View

Newsletter of the Northern Colorado Astronomical Society

August 2009

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add ncastro.org to complete email address

Next Meeting: August 6 7:30 pm

Journey to Palomar

<http://www.journevtopalomar.org/>

Club Business at 7:15 pm

**Fort Collins Museum, 200 Mathews St
Fort Collins**

<http://www.fcgov.com/museum/>

Club Brochure: http://www.ncastro.org/Contrib/2009_Brochure.pdf

NCAS Programs

Sep 3 Dr Bill Possel Space Missions of LASP

Oct 1 Dr Suzanne Metlay NEOs et al., Secure World
Foundation

City of Fort Collins Natural Area Program at Sunset

Bobcat Ridge: Aug 27, Sep 24, Oct 22

Rocky Mountain National Park Starwatching

Meet at dusk at the Upper Beaver Meadows trailhead. July
10, 24; Aug 14, 28

<http://www.ncastro.org/Sites/RockyMtnNP.htm>

Dark Site Observing Dates

Aug 14, 15; 21, 22 Foxpark WY or Keota, ask FRAC

Other Events

Little Thompson Observatory, Berthoud 7 pm Aug 21 HST
Service Mission, Dr Dennis Ebbets <http://www.starkids.org>
CSU Madison Macdonald Observatory Public Nights
On East Drive, north of Pitkin Street
Tuesdays after dusk if clear, when class is in session

Cheyenne Astronomical Society

Weekend Under the Stars, Foxpark WY Aug 20, 21, 22

<http://home.bresnan.net/~curranm/>

<http://home.bresnan.net/~curranm/wuts.html>

Chamberlin Observatory Open House, 7 to 10 pm

Aug 29 303 871 5172

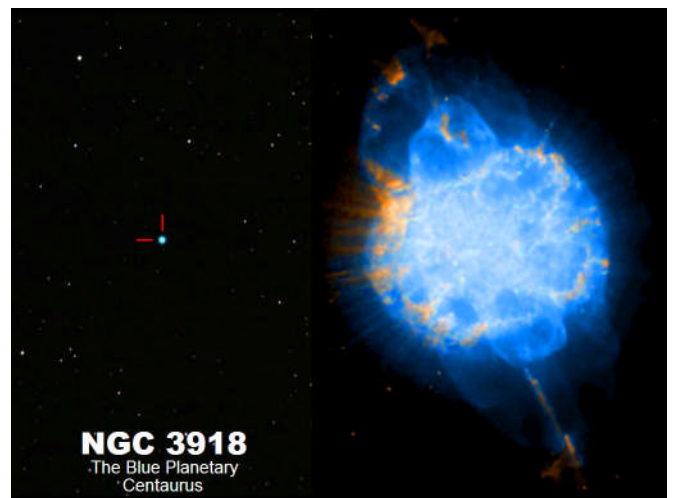
<http://www.du.edu/~rstencil/Chamberlin/>

Longmont Astronomical Society 7 pm Aug 21 at WUTS

<http://www.longmontastro.org/>

July 2 Program: Planetary Nebulae in the NGC by Lee Gregory

Why are they named planetary nebulae? Sir William Herschel
coined the name in 1785 because many as NGC 6572
resembled Uranus. Stars around 0.5 to 5 solar masses fuse
hydrogen to helium, then develop a carbon core within the
helium at the center. A double-shell burning red giant sheds
its outer layers to form a planetary nebula. Its lifespan is
10,000 to 50,000 years.

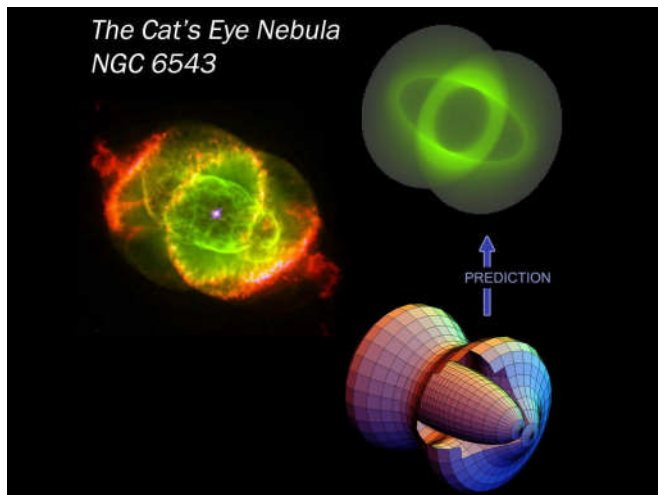


The Milky Way has about 3,000 known PN and it likely has
10,000 total. Only 20% are spherical. Bipolar PN are likely
the product of binary systems. The NGC PN are 0.3 to 2.5
light-years in diameter. The surface of the central star reaches

30,000 K and UV excites emission in the ejected layers. The gas is at 8,000 to 25,000 K and has about 1000



molecules/cubic cm. Earth's atmosphere is 2.5×10^{16} more dense. It is expanding at 20 to 30 km/second. The first discovered was M27 by Messier in 1764. The spectrum of NGC 7662 is dominated by O III and H alpha & beta lines. Lee was surprised to find only 94 planetary nebulae in the NGC. With a declination north of -50, there are 81 we can view from our latitude. 79 are north of dec -40.5 and 70 are north of -30 dec. Four are Messier objects. Three NGC objects are misclassified as PN. Of the NGC PN above -30 dec, magnitudes are 7.6 to 15.2. Size is 2 to 978 arcseconds. Distance is 530 to 24000 light-years. Mean surface brightness is 18.9 to 23.3 mag/square arcsecond.



William Herschel found 32, John Herschel found 17, E.C. Pickering found 15, and 14 other astronomers found from 1 to 6. NGC 246 is the Skull Nebula in Cetus and has considerable mottling. NGC 650/651 is M 76, the Little Dumbell. It is likely a torus with some outlying faint arcs. . Digital imaging

shows faint outer regions that elude observers. NGC 1514 is the Crystal Ball, with mottling and prominent central star. NGC 1535 in Eridanus is Cleopatra's Eye, with bright core and dim outer halo.



NGC 2346 is the well-defined Hourglass Nebula in an HST image. The Eskimo Nebula 2392 structure has been derived in 3D and includes Fast Low-Ionization Emission Regions (FLIERs). These are volumes of gas near the symmetry axis of many PN. Outflow speeds are higher than the rest of the nebula, but ionization is lower. Age is likely much younger than the rest of the nebula. No current theory explains them. NGC 2440 in Puppis has intricate hourglass structure.



NGC 2818 in Pyxis looks chaotic. The Eight-Burst Nebula NGC 3132 hints at episodic development. The Ghost of Jupiter NGC 3242 shows concentric shells nicely in amateur telescopes. The 2.5 M Isaac Newton Telescope showed multiple shells around it. The Blue Planetary NGC 3918 has very complex shells. The Bug Nebula 6302 is familiar in Scorpius. Its HST portrait looks windblown. NGC 6309 and 3626 are irregular. NGC 6537 resembles a Red Spider as named.



Note the list of equipment he used and click on the image link to see his “homebrew” 14.5” Newtonian. Totally appropriate for the International Year of Astronomy!

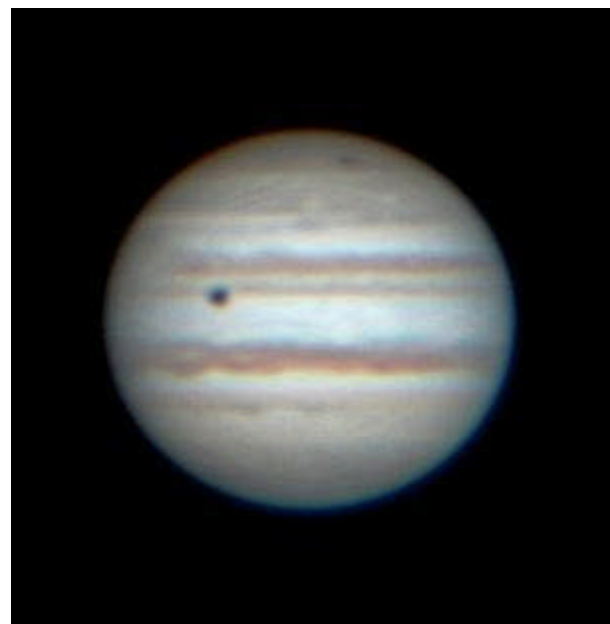


Image by Gary Garzone posted July 24. I did lots of pictures other night of spot on Jupiter. GRS was just moving off when transit shadow of Castillo moon on surface was showing up very nicely. Meteor collision Dot on top, which is south pole, showed up good. I got a pretty good seeing night, lucky sometimes. Celestron Web camera, two minutes, registax thanks for looking. I love doing web camera shots on good nights, seldom are they this good. GG

The Very Long Mystery of Epsilon Aurigae, by Robert Stencel

See Sky and Telescope, May 2009
<http://mysite.du.edu/~rstencel/epsaur.htm>

NASA Web Page for NEOs From Tom Teters

NASA to Provide Web Updates on Objects Approaching Earth

PASADENA, Calif. -- NASA's Jet Propulsion Laboratory is introducing a new Web site that will provide a centralized resource for information on near-Earth objects those asteroids and comets that can approach Earth. The "Asteroid Watch" site also contains links for the interested public to sign up for NASA's new asteroid widget and Twitter account.

The visible portion of the Cat's Eye NGC 6543 only comprises about 10% of the diameter revealed by a deep image. NGC 6572 has very high surface brightness and its color shows in many amateur scopes. Adam Block at Kitt Peak Observatory has imaged quite a few with 16 and 20 inch telescopes. NGC 6629 has high proper motion stars in the field. The Ring Nebula's central star is a popular challenge object and Lee recalls a good view with a driven 20" Newtonian and 500 to 1000x. NGC 6842 and NGC 7027 are favorites. The NGC/IC project has addressed the issue of mistakes in the catalog. Abell 76 is a PN which is 2.5 arcminutes from the coordinates of NGC 7076 which is labeled nonexistent. NGC 7293 was a target of opportunity. HST was aimed away from the Leonid radiant in 2002, and prolonged imaging time facilitated creation of a mosaic. NGC 5408, NGC 6857, and NGC 6164 are misclassified as PN.

Resources:
 HST image catalogue <http://students.washington.edu/bicklet/>
 Google image search, or SIMBAD query on object is productive

July 2 Club Business

President Bob Michael called the meeting to order. This was our first meeting in the main gallery at the Fort Collins Museum, 200 Mathews St. Event dates were announced. Treasurer John Caldwell reported the club account stands at \$437.34. Next outreach events are at Bobcat Ridge, Rocky Mtn Natl Park, and scouts at Greenbriar Park Aug 4 in Ft. Collins.

Here's the Guy Behind the Jupiter Impact From Suzanne Metlay

You've probably seen this link already to Anthony Wesley's info but just in case: <http://jupiter.samba.org/jupiter-impact.html>

"Most people have a fascination with near-Earth objects," said Don Yeomans, manager of NASA's Near-Earth Object Program Office at JPL. "And I have to agree with them. I have studied them for over three decades and I find them to be scientifically fascinating, and a few are potentially hazardous to Earth. The goal of our Web site is to provide the public with the most up-to-date and accurate information on these intriguing objects."

The new Asteroid Watch site is online at <http://www.jpl.nasa.gov/asteroidwatch> .

It provides information on NASA's missions to study comets, asteroids and near-Earth objects, and also provides the basic facts and the very latest in science and research on these objects. News about near-Earth object discoveries and Earth flybys will be available and made accessible on the site via a downloadable widget and RSS feed. And for those who want to learn about their space rocks on the go, a Twitter feed is offered. "Asteroid Watch" also contains a link to JPL's more technical Near-Earth Objects Web site, where many scientists and researchers studying near-Earth objects go for information.

"This innovative new Web application gives the public an unprecedented look at what's going on in near-Earth space," said Lindley Johnson, program executive for the Near-Earth Objects Observation program at NASA Headquarters in Washington.

NASA supports surveys that detect and track asteroids and comets passing close to Earth. The Near-Earth Object Observation Program, commonly called "Spaceguard," also plots the orbits of these objects to determine if any could be potentially hazardous to our planet.

New 32 inch Telescope Proposal for West Greeley Site From Mike Smith

I wanted to let you know that a consortium of UNC, CSU, Front Range, Aims, and several Weld County school districts is looking at forming a consortium that will construct and operate a new 32" telescope in western Greeley. When asked about public and private groups that might have an interest in joining the consortium and being granted access to the telescope, I mentioned NCAS, which was greeted with enthusiasm by the other members of the committee . . . In addition to the 32" telescope, it is planned to have several portable telescopes and a small building that could house a Starlab-type planetarium dome, along with a digital projector, so volunteer staffing by experienced telescope-users and amateur astronomers would be most welcome.

Live Earth from DISH Network, from Randy Moench

I was channel surfing on Dish Network the other day and discovered they are now broadcasting a live view of Earth from their satellite in orbit 22,000 miles up. The picture updates about every 15 seconds. Its pretty cool. Channel 212

Persied Maximum Compromised by Moon

Best Looks

Moon By Jupiter 8/5; by Venus and Mars 8/16
By Saturn 8/22; by Antares 8/27

Mercury Difficult in W dusk, 8/2 to 8/19

Venus In E predawn

Mars In E predawn

Jupiter In S middle of night

Saturn Low in W at sunset.

Uranus In SSE predawn in Pisces

Neptune By Jupiter all month in Aquarius

International Space Station Passes for Loveland – Fort Collins

August 2009

Date	Mag	Starts			Max. altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
15 Aug	-1.2	05:27:28	10	S	05:29:47	22	SE	05:32:06	10	E
16 Aug	-3.3	05:51:54	10	SW	05:54:47	82	SE	05:57:41	10	NE
17 Aug	-1.5	04:43:54	20	SSE	04:44:51	23	SE	04:47:16	10	ENE
18 Aug	-3.4	05:08:15	24	SW	05:09:51	89	SE	05:12:46	10	NE
19 Aug	-0.9	04:01:01	20	E	04:01:01	20	E	04:02:22	10	ENE
19 Aug	-2.0	05:32:32	10	W	05:35:05	30	NNW	05:37:42	10	NE
20 Aug	-3.0	04:25:15	66	NE	04:25:15	66	NE	04:27:48	10	NE
20 Aug	-0.9	05:58:39	10	WNW	06:00:31	16	NNW	06:02:23	10	NNE
21 Aug	-1.9	04:49:25	25	NW	04:50:08	28	NNW	04:52:43	10	NE
22 Aug	-0.3	03:42:02	17	NE	03:42:02	17	NE	03:42:49	10	NE
22 Aug	-0.8	05:13:47	10	NW	05:15:34	15	NNW	05:17:22	10	NNE
23 Aug	-1.0	04:06:07	22	N	04:06:07	22	N	04:07:42	10	NE
23 Aug	-0.3	05:40:29	10	NNW	05:41:10	11	N	05:41:50	10	N
24 Aug	-0.7	04:30:11	14	NNW	04:30:35	15	NNW	04:32:19	10	NNE
25 Aug	-0.2	04:55:37	10	NNW	04:56:11	10	N	04:56:42	10	N
26 Aug	0.0	03:46:48	12	N	03:46:48	12	N	03:47:15	10	NNE
27 Aug	-0.1	04:10:52	10	NNW	04:11:10	10	N	04:11:33	10	N
27 Aug	-0.2	05:46:02	10	NNW	05:47:26	13	NNE	05:48:50	10	NE
29 Aug	-0.2	05:00:55	10	NNW	05:02:23	13	NNE	05:03:51	10	NE
30 Aug	-0.9	05:25:27	10	NNW	05:27:50	22	NNE	05:30:11	10	E
31 Aug	-0.2	04:16:20	12	N	04:17:19	13	NNE	04:18:50	10	NE
31 Aug	-2.6	05:50:12	10	NW	05:53:04	55	NE	05:55:55	10	ESE
1 Sep	-0.9	04:40:57	14	NNW	04:42:44	23	NNE	04:45:08	10	E
2 Sep	-2.8	05:05:49	16	NW	05:07:57	60	NE	05:10:48	10	ESE

<http://www.heavens-above.com/main.aspx?lat=40.4997&lng=-105.05736&loc=Fort+Collins+CO+USA&alt=0&tz=MST>