The Objective View

June 2011

Newsletter of the Northern Colorado Astronomical Society

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Next Meeting: June 2 7:30 pm

Cosmic Duos: When Binary Stars Interact
by Max Moe, Harvard University

Club Business at 7:15 pm

Fort Collins Museum, 200 Matthews St
Fort Collins CO

http://nightsky.jpl.nasa.gov/club-view-directions.cfm?Adress_ID=2810

NCAS Programs

July 7 Dr. Bob Stencel Epsilon Aurigae: Exiting Eclipse
Aug 4 TBA
Sep 1 Bob Michael Atatcama Desert: Earth's Exoplanet

City of Fort Collins Natural Area Program at Sunset

Bobcat Ridge June 23, July 21
Fossil Cr Reservoir June 18, July 9

http://www.fcgov.com/naturalareas/finder/bobcat
http://www.fcgov.com/naturalareas/finder/fcopenspace

Larimer County Park Stargazing

Flatiron Reservoir June 4, July 23
Carter Lake June 11, Aug 6

http://www.larimer.org/naturalresources/parkareas.htm

Rocky Mountain National Park Skygazing

Upper Beaver Meadows Trailhead at dusk.
June 3, 10, 27; July 8, 22; Aug 5, 19

Dark Site Observing Dates
June 3, 4, 24, 25: Keota, or RMNP, ask FRAC newsgroup

Other Events

Chamberlin Observatory Open House, 7 to 10 pm
June 11, July 9, Aug 6, Oct 1, Nov 5, Dec 3
303 871 5172 http://www.du.edu/~rstencel/Chamberlin/

Cheyenne Astronomical Society 7 pm June 17 Cheyenne Botanical Gardens Beginning Astrophotography
Weekend Under the Stars is confirmed July 28-30 2011
http://home.bresnan.net/~curranm/

CSU Madison Macdonald Observatory Public Nights
On East Drive, north of Pitkin Street
Tuesdays after dusk if clear, when class is in session

Estes Park Memorial Observatory. 8:30 pm June 11 and 25; 7 pm June 23 http://www.angelsabove.org/

Little Thompson Observatory, Berthoud 7 pm doors open; 7:30 program June 17 http://www.starkids.org

Longmont Astronomical Society 7 pm June 16. Randy Cunningham, Astrosystems. Short f/ ratio Truss Newtonians. IHOP 2040 Ken Pratt Blvd http://www.longmontastro.org/

May 5 Program: NCAS Members Show and Tell

After a tasty dinner at Coopersmith's, members met on the lawn at the Fort Collins Museum for an informal chat and solar observing. Rodney Howe showed his Lunt 60mm dedicated solar telescope. Dan Laszlo set up a C102F with a Coronado SM 90 DS with an adapter machined by Gerry Reynolds. Fine views were had of solar disk detail. Seeing was surprisingly good for the setting Sun and crescent Moon. Technical difficulties prevented slide shows so members like Rob Grover and his lunar eclipse movie were delayed to a future meeting.

From Robert Arn: Geometer's Playground

So I have been sitting on this image for a while, mainly because I did not want to process it. But it seems to turn out easier than expected. Plus having a computer but no internet for a week seem to help motivate me.

Taken on May 8th here is "Geometer's Playground" - A 360x172 degree Time-Lapse High Dynamic Range Nightscape.

http://www.astroarn.com/p1068266116/h24aaa5f9#h24aaa5f9

Also, I am hoping to turn this image into a "Little Planet".

However doing it using PS produces some undesirable results. Does anyone know of any programs that will do a stereographic projection for me?

Cheers,
Robert Arn
www.AstroArn.com

From Harold Porter: Stellar Oddballs, Kepler Spacecraft team needs help from amateur astronomers

http://www.sciencenews.org/view/feature/id/74449/title/Stellar_oddballs

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Stellar oddballs
Kepler spacecraft finds much more than exoplanets
By Charles Petit
June 4th, 2011; Vol.179 #12 (p. 18)

Enlarge
The Kepler team wants outside astronomers to further study strange stars in the craft's data. Here, a white dwarf and red dwarf are depicted in mutual orbit.Mark Garlick/Visualphotos
After mind-bendingly precise data and artists' renditions of mysterious stars played across the screen, Martin Still leaned into his lectern at an American Association for the Advancement of Science meeting early this year to deliver a plea to fellow astronomers. In one word: Help!
"We need you guys," said the manager of NASA's guest observer program for Kepler, among the most successful space telescopes ever launched. "Wait a year and it's too late."
Kepler has found a bonus, a treasury of wonders, or one might say a stellar freak show out in space. The result is a predicament: This is not what the space telescope was looking for. Kepler's NASA team has one job that it must, by contract, pursue almost exclusively — hunting for extra-solar planets. In-house researchers must largely ignore other wonders. Hence the call for aid from guest observers, people given access to a telescope's data, but who typically provide their own resources to analyze the results and pursue more.
In science, new instruments routinely discover unexpected things. But Kepler's surprises — which could help astronomers learn far more about the evolution of stars, their internal structures and how the burning balls of plasma die — require fast action if they are to be fully examined.
The telescope honors 17th century German astronomer Johannes Kepler. He was first to realize that planets follow elliptical, not circular, orbits, and he established three laws of planetary motion. "Our mission is to find planets. We hope to find Earthlike planets," says the project's founder and principal investigator, William Borucki of NASA's Ames Research Center in Mountain View, Calif. Borucki spent decades fighting against great skepticism to build an orbiting instrument so sensitive it would detect planets that briefly cross, or transit, their stars' faces.
NASA launched the telescope in March 2009 into a "trailing" orbit. Sitting slightly farther from the sun than Earth does, Kepler makes one trip around the sun every 372 days, gradually falling farther behind Earth. In its solitude, the spacecraft keeps its eye on hordes of stars, checking for planets.

From Andrea Schweitzer: Farewell to Mars Spirit Rover

A good farewell essay -- Andrea

Final Goodbye to a Mars Explorer
Published: May 28, 2011

After a final attempt last week, NASA has stopped trying to make contact with the Mars rover called Spirit, which was last heard from in March 2010 as the Martian winter was setting in. Hopes of hearing more from Spirit were slim even then, but there is a difference between not hearing and no longer listening.

Spirit was a spectacular success. A three-month mission, beginning in 2004, turned into six years of exploration. Even the accidents were profitable. When Spirit bogged down, permanently, at a location called Troy, efforts to free it revealed unexpected subsurface sulfates, which scientists believe are part of the Mars water cycle.

This is not like calling off the search for a missing human explorer. And yet it feels similar, even though Spirit is a six-wheeled robotic vehicle, not even remotely human in appearance, even by Wall-E standards. Still, it is strangely easy to personify Spirit. Over the years, it has seemed intrepid, valiant, determined. It has no consciousness, but there has been something self-knowing in the photographs it has taken of itself, with Mars in the background. In its plight — stuck on the edge of a small crater tens of millions of miles from Earth — we feel a celestial solitude, as if we were marooned there ourselves.

What made Spirit all these things, of course, were the ngineers and scientists who built and operated it, who reveled in the data it returned and who did their best to keep it running, year after year. The most human thing about Spirit, after all, was the impulse that sent it to Mars in the first place, a planet we now know in a way that would have seemed unimaginable only a decade ago.

From Bill Tschumy:

This XKCD comic is very apropos to this (and kind of sad too):

http://xkcd.com/695/

From Tom Teters: Wonderful Solar Telescope Design

This is genius:
http://www.youtube.com/watch?v=TwYaAFplgWU&feature=related ....& buildable.

On the Pickering Scale for Turbulence

Greetings all,
Found a very easy way to visualize the Pickering Scale. Cloudy Nights has a very good little tutorial on how to easily rate the atmospheric turbulence of the night's air:

http://www.sightsabove.com/article.php?article=17
Good gif examples.

Want to Play with 30 K Galaxies?

Ever wonder what shape the universe is in? Thought it might be fun to play with it,
move it around, change directions, speed it up, slow it down? And do it in 3D?

Well it's easier done than said:

- First- install up the 3D applet from http://www.cortona3d.com/Products/Cortona-3D-Viewer.aspx in your browser.
  - This applet also 'carries' a nice little demo world - ***life.wrl***
- Second - From Dr. Tully's webpage - go to '*Manipulate data cube of 30,000 galaxies:'* http://www.ifa.hawaii.edu/~tully/
  - Or, right to the page:
  - http://www.ifa.hawaii.edu/~tully/galaxies.wrl
  - Also described is an interesting 'feeding filaments into the Virgo Supercluster' project, Dr. Tully is researching.
- Up pops 'your' universe, allow the Readme, there are some non-intuitive controls, but the easy to get use to.

VISTA is Online with 67 Meg Camera

You should check this page, there are some amazing images.
http://www.eso.org/public/news/eso0949/

VISTA Cuts through Dust One of the newest telescopes at the Paranal Observatory in northern Chile is a versatile telescope that can see through the dust that abounds in interstellar space. The Visible and Infrared Survey Telescope for Astronomy (VISTA) is a survey telescope with an attached 67-megapixel camera. VISTA's first image was of the Flame Nebula (NGC 2024),

Best Looks

Moon	By Saturn June 10; by Jupiter June 26; By Mars and Pleiades June 28 and 29
Mercury	In WNW last week
Venus	Bright in dawn ENE
Mars	In ENE predawn
Jupiter	Low E in predawn
Saturn	In S in evening. By Gamma Virginis
Uranus	Predawn in Pisces
Neptune	Predawn in Aquarius
Pluto	Opposition June 28 in Sagittarius

International Space Station Passes for Loveland – Fort Collins June 2011

Date	Mag	Starts			Max. altitude			Ends		
		Time	Alt	Az.	Time	Al	Az	Time	Al	Az
2 Jun	-0.6	02:22:41	13	ENE	02:22:41	13	ENE	02:23:02	10	ENE
2 Jun	-1.7	03:54:03	16	WNW	03:55:33	24	NNW	03:57:58	10	NNE
3 Jun	-1.8	02:44:36	31	NE	02:44:36	31	NE	02:46:18	10	NE
3 Jun	-0.8	04:17:31	10	NW	04:19:03	14	NNW	04:20:36	10	NNE
4 Jun	-1.6	03:06:31	23	NW	03:06:49	24	NNW	03:09:13	10	NNE
5 Jun	-0.6	01:57:04	15	NE	01:57:04	15	NE	01:57:38	10	NE
5 Jun	-0.7	03:28:51	10	NW	03:30:23	14	NNW	03:31:56	10	NNE
6 Jun	-1.1	02:18:59	21	N	02:18:59	21	N	02:20:38	10	NNE
7 Jun	-0.5	02:40:53	12	NW	02:41:53	14	NNW	02:43:26	10	NNE
8 Jun	-0.5	01:31:23	15	NNE	01:31:23	15	NNE	01:32:13	10	NNE
8 Jun	-0.1	04:40:40	10	NNW	04:41:54	12	NNE	04:43:09	10	NE
9 Jun	-0.4	01:53:13	13	NNW	01:53:33	14	NNW	01:55:06	10	NNE

9 Jun	-0.7	05:03:29	10	NNW	05:05:42	20	NNE	05:07:55	10	ENE
10 Jun	-0.3	00:43:36	12	NNE	00:43:36	12	NNE	00:43:58	10	NNE
10 Jun	0.0	03:52:25	10	NNW	03:53:39	12	NNE	03:54:53	10	NE
11 Jun	-0.3	01:05:07	13	NNW	01:05:23	14	NNW	01:06:56	10	NNE
11 Jun	-0.7	04:15:19	10	NNW	04:17:32	20	NNE	04:19:45	10	ENE
11 Jun	-0.9	23:54:37	18	N	23:54:37	18	N	23:55:52	10	NNE
12 Jun	0.0	03:04:20	10	NNW	03:05:34	12	NNE	03:06:48	10	NE
12 Jun	-2.4	04:38:30	10	NW	04:41:17	45	NNE	04:44:03	10	ESE
12 Jun	-1.6	21:06:25	10	SE	21:07:01	11	SE	21:07:37	10	ESE
12 Jun	-3.3	22:38:57	10	WSW	22:41:46	63	NW	22:44:36	10	NE
13 Jun	-0.2	00:15:50	10	NW	00:17:23	13	NNW	00:18:55	10	NNE
13 Jun	-0.7	03:27:19	10	NNW	03:29:32	20	NNE	03:31:45	10	ENE
13 Jun	-3.5	05:02:03	10	WNW	05:04:51	50	SW	05:07:39	10	SE
13 Jun	-3.1	21:27:43	10	SSW	21:30:20	34	SE	21:32:58	10	ENE
13 Jun	-1.1	23:03:08	10	W	23:05:32	24	NNW	23:07:56	10	NNE
14 Jun	0.0	02:16:25	10	NNW	02:17:39	12	NNE	02:18:53	10	NE
14 Jun	-2.5	03:50:35	10	NW	03:53:22	45	NNE	03:56:08	10	ESE
14 Jun	-3.2	21:51:06	10	WSW	21:53:55	62	NW	21:56:45	10	NE
14 Jun	-0.1	23:28:00	10	NW	23:29:32	13	NNW	23:31:03	10	NNE
15 Jun	-0.8	02:39:29	10	NNW	02:41:42	20	NNE	02:43:55	10	ENE
15 Jun	-3.6	04:14:14	10	WNW	04:17:01	49	SW	04:19:48	10	SE
15 Jun	-1.0	22:15:23	10	W	22:17:46	23	NNW	22:20:09	10	NNE
16 Jun	0.0	01:28:40	10	NNW	01:29:54	12	NNE	01:31:08	10	NE
16 Jun	-2.6	03:02:50	10	NW	03:05:37	46	NNE	03:08:23	10	ESE
16 Jun	-1.9	04:38:47	10	W	04:40:30	15	SW	04:42:12	10	SSW
16 Jun	-3.1	21:03:25	10	WSW	21:06:13	62	NW	21:09:03	10	NE
16 Jun	-0.1	22:40:21	10	NW	22:41:51	13	NNW	22:43:22	10	NNE
17 Jun	-0.9	01:51:48	10	NNW	01:53:51	20	NNE	01:53:51	20	NNE
17 Jun	-1.0	21:27:47	10	W	21:30:10	23	NNW	21:32:33	10	NNE
18 Jun	-0.1	00:41:04	10	NNW	00:42:19	12	NNE	00:43:30	10	NE
18 Jun	-0.1	21:52:51	10	NW	21:54:20	13	NNW	21:55:50	10	NNE
19 Jun	-0.5	01:04:18	10	NNW	01:05:19	16	N	01:05:19	16	N
19 Jun	-0.3	23:53:37	10	NNW	23:54:53	12	NNE	23:56:05	10	NE
20 Jun	-0.2	21:05:31	10	NW	21:06:59	13	NNW	21:08:27	10	NNE
21 Jun	-0.7	00:16:57	10	NNW	00:18:24	18	N	00:18:24	18	N
21 Jun	-0.4	23:06:20	10	NNW	23:07:37	12	NNE	23:08:54	10	NE
22 Jun	-0.4	00:40:33	10	NW	00:40:51	12	NW	00:40:51	12	NW
22 Jun	-1.3	23:29:45	10	NNW	23:32:00	21	NNE	23:32:00	21	NNE
23 Jun	-0.5	22:19:12	10	NNW	22:20:31	12	NNE	22:21:51	10	NE
23 Jun	-1.1	23:53:27	10	NW	23:54:39	22	NW	23:54:39	22	NW
24 Jun	-1.4	22:42:42	10	NNW	22:44:59	21	NNE	22:45:57	18	NE
25 Jun	-0.7	21:32:14	10	NNW	21:33:35	13	NNE	21:34:56	10	NE
25 Jun	-2.5	23:06:30	10	NW	23:08:46	43	N	23:08:46	43	N
26 Jun	-1.5	21:55:50	10	NNW	21:58:08	21	NNE	22:00:15	11	ENE

26 Jun	-1.2	23:30:42	10	WNW	23:31:41	18	WNW	23:31:41	18	WNW
27 Jun	-0.8	20:45:26	10	NNW	20:46:49	13	NNE	20:48:11	10	NE
27 Jun	-3.2	22:19:43	10	NW	22:22:31	53	NNE	22:23:14	39	E
28 Jun	-1.6	21:09:07	10	NNW	21:11:26	22	NNE	21:13:44	10	E
28 Jun	-2.7	22:44:01	10	WNW	22:46:19	37	WSW	22:46:19	37	WSW
29 Jun	-3.3	21:33:06	10	NW	21:35:54	55	NE	21:38:02	16	ESE
30 Jun	-2.8	21:57:30	10	WNW	22:00:11	38	SW	22:01:19	25	S
1 Jul	-3.3	20:46:38	10	NW	20:49:27	58	NE	20:52:15	10	ESE
1 Jul	-1.0	22:23:15	10	WSW	22:24:18	11	SW	22:24:42	11	SW

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