M-STAR

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MARIPOSA STAR PARTY CANCELLED

The unpredictable fall weather bit us once again and intervened this last month to cause the Mariposa School Outreach to be cancelled. . Richard Cloak reported the following…

Dan [Haines] called me about 1300 [1pm] and asked about the weather here. Internet forecasts showed a huge band of clouds coming our way. The school needed a go/no-go by 1400[2pm] the latest, so it didn't look good at that time. That was the worst it looked all day and by night fall, long after we'd called it off, it was beautiful. ~RJC

M-STAR Meeting

Eric Holland was kind enough to host the most recent M-STAR meeting, on Sunday October 3rd , at this home in Merced. Personally, I vote that Eric host all future meetings as he and his family put out a spread of food that would compete with some area buffets! ;-) I left stuffed!

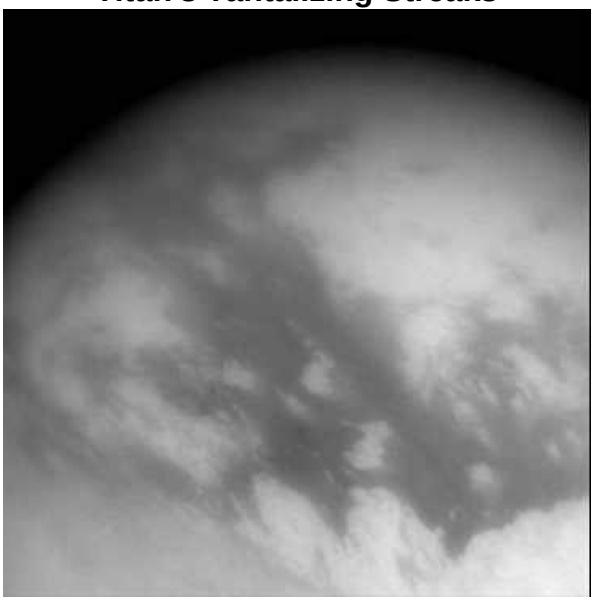
Attending the meeting with Eric were Anthony Ochoa, Mike Ryan, John Gasper, Richard Cloak, Dan Haines and Gary Walker.

Among the meeting topics were the (then) upcoming Mariposa Outreach and a new club position titled "Scope Master".

The Scope Master is a rotating position for club school outreaches. Basically, the Scope Master helps members plan an evening's object viewing list so all scopes are NOT viewing the same objects at the same time. This should help keep students interested, and allow them the opportunity to see as many different objects as possible in a given evening event. Richard Cloak volunteered to take the first crack at the job for the cancelled Mariposa event.

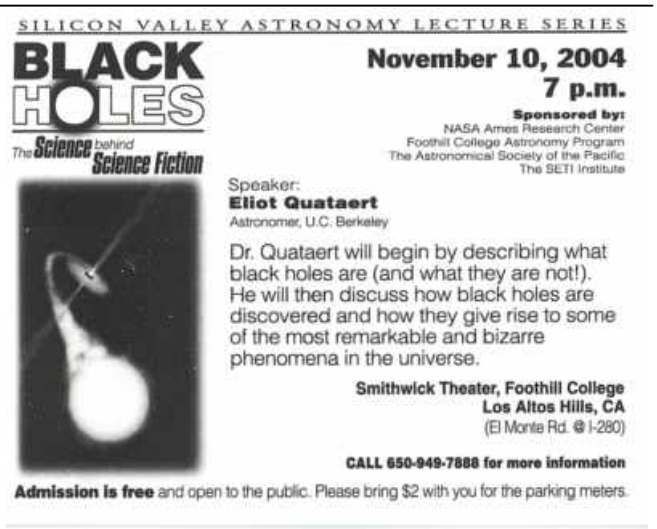
Inside:

Titan's Tantalizing Streaks



This wide-angle image captured by Cassini's imaging science subsystem shows streaks of surface material in the equatorial region of Titan. It was acquired through a near-infrared filter, which is sensitive to methane. Streaks occur in the east-west direction (upper left to lower right), and may be caused by the movement of a fluid over the surface, such as wind, hydrocarbon liquids, or a migrating ice sheet, such as a glacier. The large-scale streaks are most easily explained by winds in Titan's massive atmosphere. The image scale of this picture is 6 kilometers (3.7 miles) per pixel. North is 45 degree to the right of vertical.

Credit: NASA/JPL/Space Science Institute



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Welcome to S&T's Weekly News Bulletin. Images, the full text of stories abridged here, and other enhancements are available on our Web site, SkyandTelescope.com, at the URLs provided below. Clear skies!

TITAN: "A WORLD APART"

Of the dozens of outer-planet satellites seen during the historic Voyager missions two decades ago, none left scientists more perplexed than Saturn's Titan. Bigger than Mercury and endowed with a dense, haze-choked atmosphere, this giant moon kept its surface completely hidden from the Voyagers' probing cameras. Although clever infrared imaging using the Hubble Space Telescope and other observatories later revealed a crude patchwork of light and dark surface features, researchers could only speculate about what really lies beneath all that murk.

On October 26th the answers started coming, when NASA's Cassini spacecraft passed 1,174 kilometers (730 miles) from the moon's frigid surface. After the onboard camera had snapped hundreds of images, the spacecraft pivoted so its imaging radar system could cut through the haze and map a 2,000-by-120-km swath of Titanscape. Other instruments recorded surface temperatures, studied the atmosphere, and monitored the electromagnetic environment in Titan's vicinity....
http://SkyandTelescope.com/news/article_1376_1.asp

EARTH'S TWISTED SPACEWARP

Yet another prediction by Einstein's general theory of relativity seems to be holding true: a rotating body, such as Earth, should slightly twist the space in which it is embedded. Two physicists who have been tracking satellites orbiting Earth claim to have made the first reliable measurement of this effect. Others remain unconvinced -- but a different experiment should soon settle the question once and for all.

The effect in question is called "frame dragging," a very slight twisting of space-time induced by any rotating mass. (Think of a ball bearing spinning in syrup.) The phenomenon is more formally known as the Lense-Thirring effect, after the Austrian physicists Joseph Lense and Hans Thirring, who predicted it in 1918 two years after Einstein published general relativity....
http://SkyandTelescope.com/news/article_1374_1.asp

MEADE STEPS INTO THE SUNSHINE

In mid-October, California-based telescope giant Meade Instruments announced its pending purchase of Coronado Technology Group in Arizona, the world's leading manufacturer of specialized hydrogen-alpha filters and telescopes for viewing the Sun. When the deal is completed later this year, backyard astronomers will be able to enjoy round-the-clock observing with Meade equipment for the first time in the company's three-decade history. Prior to this, Meade did not sanction solar observing with any of its wide-range of telescopes and accessories.

Coronado's name has become increasing familiar to Sky & Telescope readers since the company began marketing its hydrogen-alpha filters to amateur astronomers in the late 1990s....
http://SkyandTelescope.com/news/article_1375_1.asp

ROCKY PLANETS GALORE?

Astronomers using the infrared Spitzer Space Telescope have found dozens of debris disks stemming from recent collisions of solid bodies orbiting young -- and not-so-young -- stars. Some of the debris seems to come from very large individual collisions, such as the one that smashed the early Earth and created our Moon. Such evidence "reassures us that the probability is high" that terrestrial planets are abundant in the universe, Scott Kenyon (Harvard-Smithsonian Center for Astrophysics) said at a press conference Monday.

A dusty debris disk arises after an infant star's original, gassy protoplanetary disk has dissipated and left solid planetesimals behind to jostle and bang into one another. The IRAS satellite found the first signs of debris disks some 20 years ago around a few bright stars such as Vega, Fomalhaut, and Beta Pictoris. Now George H. Rieke (Steward Observatory) and 11 colleagues have used Spitzer to examine 266 stars having masses of 2

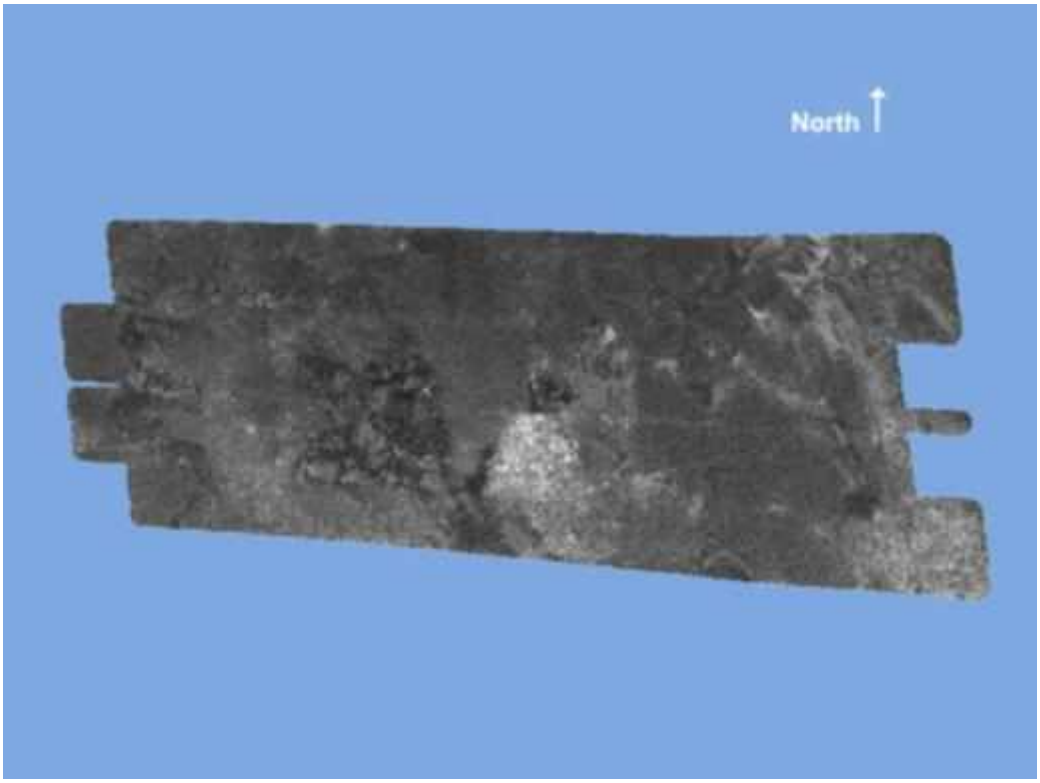
to 3 Suns and ages ranging from 5 million to 850 million years. They found dust from collisions forming "an immense variety" of debris disks around 71 of the stars....
http://SkyandTelescope.com/news/article_1371_1.asp

A NEWFOUND GLOBULAR CLUSTER
An astronomer-in-training has discovered a new globular cluster in Aquila by trolling through images taken by the Spitzer Space Telescope.

If it weren't hidden behind interstellar dust, the cluster would shine at 4th magnitude -- making it one of the most spectacular deep-sky objects anywhere. Unfortunately, backyard stargazers won't be spotting GLIMPSE-C01 any time soon, even though it may be one of the closest globular clusters (roughly 10,000 light-years from Earth) and one of the most luminous (pouring out the light of some 200,000 Suns). That's because interstellar matter blocks all but one millionth of the cluster's Earthbound visible light.

However, the dusty molecular clouds that lie between us and GLIMPSE-C01 are much more transparent to the cluster's mid-infrared light -- the kind Spitzer senses....
http://SkyandTelescope.com/news/article_1370_1.asp

'Black Cat' on Titan



This radar image of the surface of Saturn's moon Titan was acquired on October 26, 2004, when the Cassini spacecraft flew approximately 1,600 kilometers (994 miles) above the surface and acquired radar data for the first time.

Brighter areas may correspond to rougher terrains and darker areas are thought to be smoother. This image highlights some of the darker terrain, which the Cassini team has dubbed "Si-Si the Cat." This nickname was chosen after a team member's daughter, Si-Si, pointed out that the dark terrain has a cat-like appearance. The interconnected dark spots are consistent with a very smooth or highly absorbing solid, or could conceivably be liquid.

The image is about 250 kilometers (155 miles) wide by 478 kilometers (297 miles) long, and is centered at 50 N, 54 W in the northern hemisphere of Titan, over a region that has not yet been imaged optically. The smallest details seen on the image vary from about 300 meters (984 feet) to 1 kilometer (.62 mile).

The data were acquired in the synthetic aperture radar mode of Cassini's radar instrument. In this mode, radio signals are bounced off the surface of Titan.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The instrument team is based at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

For the latest news about the Cassini-Huygens mission visit http://www.nasa.gov/cassini . For more information about the mission visit http://saturn.jpl.nasa.gov .

Image credit: NASA/JPL

Telescope Innovations

I've made some new innovations for my telescope and I thought I would share them with the club. If you like, please try these with your own telescope if applicable and if you have questions please contact me. **Eric Holland, M-Star Webmaster**

Rotating Scope

I have a 10" Meade Schmidt-Newtonian and was often frustrated with the position of my focuser. I would often have to use a step stool and lean over my telescope to view through the focuser. My scope sits in a ring cradle assembly on an equitorial mount. It can be loosened and then the telescope can be rotated as desired but it only really works in a horizontal position. When pointed upward it can be difficult as the weight of the scope makes it want to slip out. My solution was to add two additional rings that clamp around my scope that sit just outside the cradle assembly rings and thus the cradle assembly can be left semi-loose and at the same time the scope can freely rotate and not slip out. The additional rings are plastic 12" sowing hoops from JoAnn Frabrics. They cost about $15 each and I believe come in other sizes such as 6", 8", etc. If you don't know what these are, each ring consists of an outer and inner ring that interlocks. The outer ring has a slit and clamps around an inner solid ring. For my scope, the inner ring didn't want to slip over the ends of my scope so I slit it myself to make it easier. I then lined the inner scope with a few adhesive backed felt pads to not scratch up the scope's surface. See pictures.

Laser Viewfinder

I recently purchased a large 9x50 right angle viewfinder and a dovetail base to attach it to my scope. My hope was to rid my aching neck and back from trying to look through my standard viewfinder. I ran into a problem when attaching it. My original viewfinder attached to the scope with two screws that came up from inside the telescope, up through the viewfinder base and then kept snug with some nuts. My new viewfinder has screws that screw from the outside in and then the nuts thread onto the screws on the inside of the scope. My scope has a correcting plate on the front and there was no way for me to screw the nuts on without opening up the scope, which I didn't want to do. My solution was to use 1/8" aluminum bar stock, which I drilled and tapped two holes for the new viewfinder to thread into. I then drilled two additional holes, which utilized the original screws and nuts to hold down the aluminum bar stock. I attached adhesive backed rubber feet to the bottom of the bar stock to not scratch up the scope's surface. I then discovered another problem. I was used to viewing through my viewfinder with both eyes open and using both eyes to help me line up stars when aligning my goto scope. The right angle didn't allow me to do that and I found it difficult to get the star in my viewfinder. My solution was to build a holder for my green laser pointer that would also attach to my viewfinder and project the beam up into the sky. I could then see exactly where the scope was pointing and move my scope with the computer controls. Once on the star I could then fine-tune the centering by looking through the viewfinder and focuser as I normally would. And for my second star alignment it is just as easy. The laser holder is made from PVC pipe and fittings. I used ½" pipe that fits into a ½" to 1" bushing that fit into a 1" coupler. I then drilled and tapped two holes and using nylon screws one keeps the laser tightly inside the holder and the other keeps the holder on the end of the viewfinder. See pictures.

I have a few other innovations such as a homemade dew shield for under $10 but I'll share them with you in another newsletter.

Thanks,
Eric

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A special THANKS goes to Richard Cloak for the monthly Calendar & Maps!

M51

More Photos from Eric Holland

MER Martian Panorama

Join M-STAR and See the UNIVERSE

Membership terms are on an annual calendar from Jan. 1 through Dec. 31

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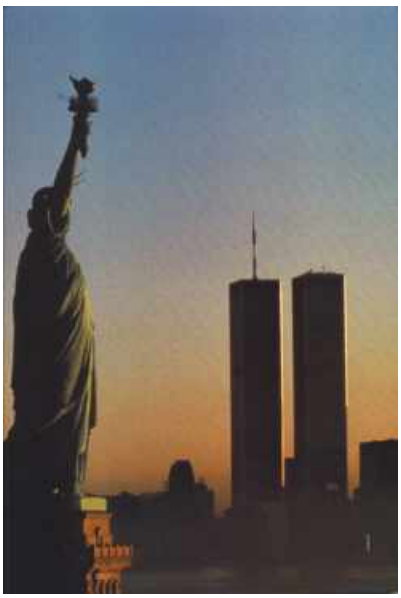

NEVER FORGET!!