

BULLETIN

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Inside this issue

Contact Information	2
Editor's Corner	2
New Members	3
The Real Lord of the Rings	3-7
RTMC Preliminary Report	8
Griffith Observatory's 75th Anniversary	9,10
LAAS Email Groups	10,11
Outreach Program	11
Public Star Party Instructions	12
Lost Items at the Griffith Public Star Party	13
Map to Garvey Ranch Park Facility	13
Loaner Corner	14
Events Calendar	15
General Meeting, Speaker Information	15
Sky and Telescope Club Subscriptions	16
Astronomy Subscriptions	16
Membership Information	16
Website information	16

**OUR 84th YEAR OF
ASTRONOMY IN LOS ANGELES**

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Editor's Corner

*W*e've got the stairs for the 26-inch, and it has been partially outfitted for use. The board hopes to have it ready for the next public star party at Griffith.

Speaking of which, the May public star party is also an experiment to see if it is feasible to extend the Summer star party hours (May through August) to 11:00pm. If all goes well at the May star party, Griffith might continue this arrangement through the Summer.

In the next bulletin, I hope to have reports on how RTMC fared in its new weekend. Already there are indications that attendance by both people and vendors is significantly less than in previous years. We'll see.

Articles, short news or story items, and photographs and images are welcome as long as they're focused on LAAS interests. Articles need to be 1,500 words or less. Please submit only a few images at one time, with a caption for each. Include such information as camera type, telescope or other equipment used, and exposure times, where pertinent. The deadline for submitting bulletin material is the 10th of each month. If possible, please submit electronically to: BulletinEditor@laas.org

Material may be sent to the LAAS address listed at the top of the column at left, but timely reception and publication cannot be guaranteed. ✧

David Nakamoto

New Members

The new members approved at the last board meeting are:

- Forrest Bell
- Jessica, Jossie, Margarita, and Reginaldo Flores
- Mayur Gondhalekar
- Matthew Mundy
- Robert Powers
- Raghav Thirumulu
- Gregory Thompson

Welcome to our club, and we hope you'll enjoy your Astronomy with all of us ! ✧

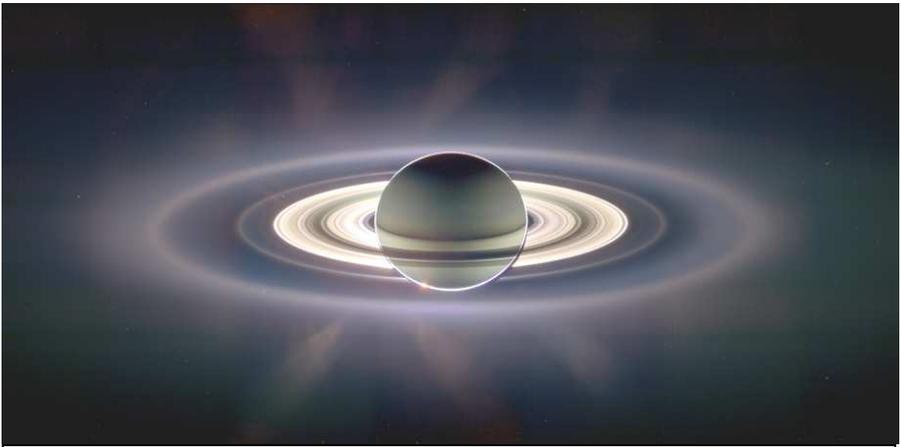
The Real Lord of the Rings

By Timothy Thompson

The real Lord of the Rings hangs out around 891 million miles from the sun, and orbits as the sixth planet in the solar system. It is, of course, the planet Saturn. Certainly already well known to people long before recorded history began, there is nothing to say about the discovery of Saturn itself. We do know that the first written records showing observations of Saturn date from about 650 B.C., and were made by astronomers in the ancient Assyrian Empire. But of course, Saturn was just a wandering point of light in the sky, until the first telescopes revealed Saturn's hidden secrets.

Galileo Galilei, the first astronomer to use a telescope, trained his homemade 20-power single element refractor on Saturn in 1610. He discovered something that surprised & frustrated him. He discovered that Saturn was a triple planet! In Galileo's words, "I have observed the highest planet to be triple-bodied. This is to say that to my very great amazement Saturn was seen to me to be not a single star, but three together which almost touched each other." We now know that Galileo had discovered the rings of Saturn, but could not distinguish them as such, probably because of bad seeing. This was all surprising for fairly obvious reasons. But it was frustrating, because when Galileo looked at Saturn in 1612, he saw nothing but the globe of Saturn; the curious triple had vanished! Again, in

(Continued on page 4)



Saturn eclipses the sun in this Cassini image. The image is a composite of 165 images taken in a 3 hour period on 5 September 2006. The faint & narrow G ring is visible just outside the main rings, and the wide & faint E ring is outermost. Enceladus can be seen in the E ring on the left, and the conspicuous dot between the G ring & A ring on the left is Earth.

Galileo's words, "I do not know what to say in a case so surprising, so unlooked for and so novel." Galileo had unknowingly become the first astronomer to witness a ring plane crossing. In 1616 he was able too see the rings properly, reporting them as half ellipses visible on either side of the planet. In 1655, Christian Huygens correctly interpreted the ellipses as a ring, but incorrectly thought it was a solid ring. In 1659 Huygens explained how Earth passed through the ring plane every 14 or 15 years. In 1660 Jean Chapelain correctly decided the rings were made of many small satellites, but few believed him, as they were still mostly convinced the ring was solid. James Clerk Maxwell proved that the rings could not be solid in 1856, but the solid ring theory was not finally laid to rest until the 1940's, when Harold Jefferies finally nailed the dynamics door shut on the whole idea.

The first of Saturn's moons to be discovered was Titan, discovered by Huygens in 1655. Iapetus & Rhea were discovered by Giovanni Cassini in 1671-1672, and he correctly realized that Iapetus has a dark side and a bright side, when he failed to see it where he knew he should, and reasoned that he was looking at the dark side. Cassini also discovered Tethys & Dione in 1684. It was a long dry spell for Saturn's moons, until William Herschel officially discovered Enceladus & Mimas in 1789 (he actually saw Enceladus in 1787, but chose to wait for the ring plane crossing of 1789 to confirm it). William & George Bond, and William Lassell discovered Hyperion during the ring plane crossing of 1848-1849. William Pickering discovered Phoebe in 1898, the only moon before or since, to be

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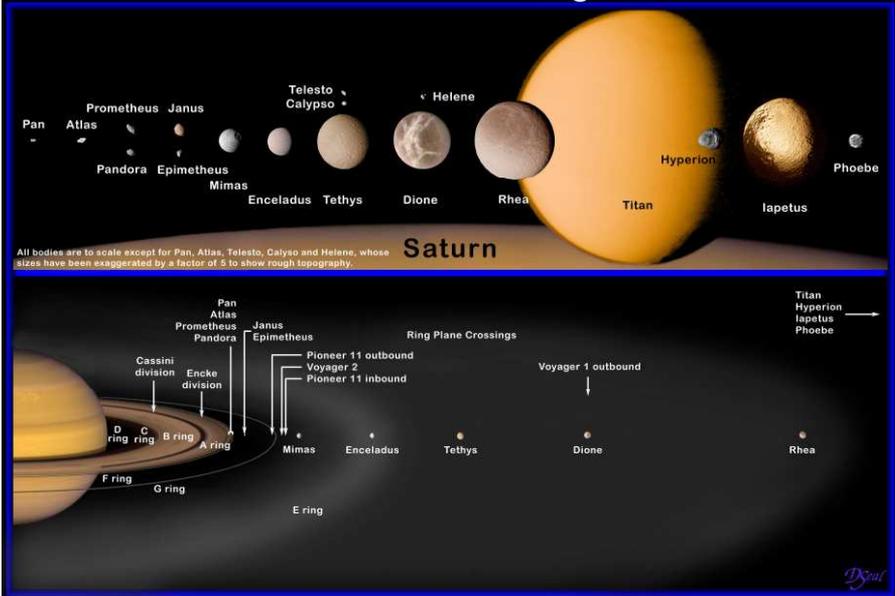
This view of Saturn is a composite of 126 Cassini images over a 2 hour period on 6 October 2004, from a distance of 3,900,000 miles. The image scale is 24 miles per pixel.

discovered by Earth based observations that were not during a ring plane crossing. We have so far discovered a total of 60 satellites around Saturn. Galileo discovered the four largest satellites of Jupiter, but he discovered none of Saturn's satellites.

Surely the rings of Saturn are its premiere feature. Once Earth based telescopes were good enough, astronomers could identify the prominent A & B rings, and the less obvious C ring interior to them. The A & B rings are separated by the conspicuous Cassini Division, discovered by Giovanni Cassini in 1676, while the A ring features the much more obscure Encke Division. The outermost A ring extends between 122,000 and 137,000 km from Saturn; the B ring is next in line, from 92,000 to 117,000 km; the innermost (of the classical rings) C ring lies between 74,000 and 92,000 km from Saturn. The rings look smooth from Earth, and were long thought to be solid rings, but were well known to be made of many orbiting rocks and/or ice chunks long before the first spacecraft got there. Pioneer 11, Voyager 1 & 2, and Cassini have radically altered our view of the rings. Apparently smooth as seen from Earth, Voyager 1 & 2 images revealed the rings to be built up from thousands of thin ringlets, in a complex pattern generated by gravitational tug-of-war between Saturn and its many moons. Many tiny moons have been found embedded in the rings. New rings were found (the E, F, & G rings), and the Voyagers discovered the role of Shepherd satellites. We now know that the rings are far more complicated dynamically than we ever thought before. We also know that the rings are ephemeral. The rings are about 100,000,000 years old, far younger than the solar system, which is about 4,500,000,000 years old. The rings are slowly

(Continued on page 6)

Saturn's Satellites and Ring Structure

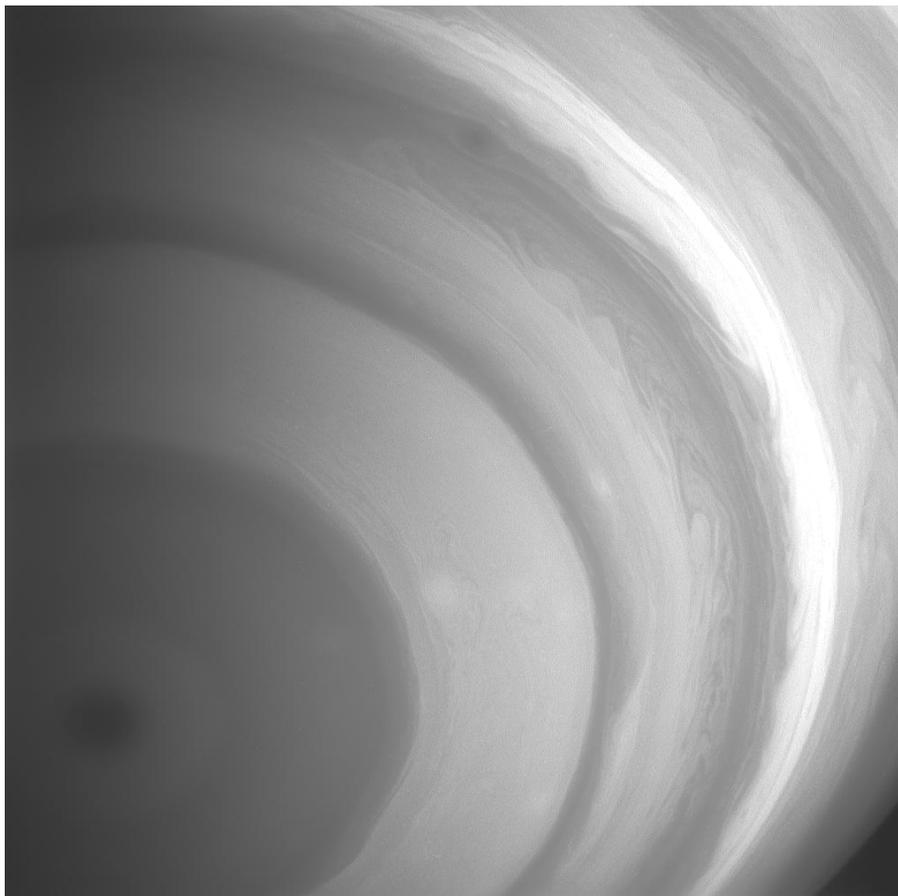


This diagram shows the satellites & ring system of Saturn to proper scale, unless otherwise noted.

evaporating away, mainly by losses at the outer edges of the rings, and are unlikely to last more than a few hundred million years more.

The cloud belts in the upper atmosphere of both Jupiter & Saturn are easily seen from Earth, even in small amateur telescopes. But the clouds of Saturn are much less distinct, have much less contrast than the clouds of Jupiter. The Voyager 1 & 2 spacecraft flew by Saturn on November 13, 1980 and August 26, 1981, respectively, revealing new details in the clouds of both planets. Saturn, like Jupiter, rotates very fast. Jupiter, 11.2 times bigger across than Earth, spins around with a "day" that is only 9 hours 55 minutes long. Saturn, 9.4 times bigger across than Earth, has a 10 hours 39 minute "day". Because of their rapid rotation both planets sport enormous winds. In the case of Saturn, the clouds are clocked as fast as 1100 miles per hour. If Saturn were a hurricane, it would be about category 52 on the Saffir-Simpson scale, which currently tops out at a maximum strength of category 5. The winds in Jupiter's clouds are significantly slower.

This is the season of Saturn, as it becomes conspicuous in the evening sky. Its rings & moons & cloud belts are easy to see, so go out and look. Just don't expect the view in your telescope, from here, to look like Cassini's on the spot view. ✧



This is a Cassini infrared image of the clouds around the south pole of Saturn. The image was taken on 1 February 2007 at a wavelength 0.890 microns and a distance of 587,000 miles. The image scale is 33 miles per pixel.

RTMC, A Report

by Michael Rudy and Michael White

Edited by David Nakamoto

Michael Rudy reports that "RTMC was, well, different for sure!"

He estimated a 2/3 reduction in attendance along with a 1/2 reduction in the number of vendors from last year. The reasons for this are self-explanatory.

Despite the disappointing attendance, Michael reported that there were some great attributes that he enjoyed from years ago, to today. Seeing members of his astro family, and friends old and new. He mentions that Carla and Mary did an outstanding job with the LAAS booth - a friendly home base for club members, and it was visually appealing. Meeting LAAS members that never would meet otherwise. More time to ask questions and converse with favorite mfg's/dealers. Getting to spend another day immersed in our favorite hobby, and sharing his experience with the LAAS and share with others the society's events and facilities.

So for Michael RTMC is nothing like what it once was, but the benefits of going far outweighed what some thought this year's RTMC could have been.

For Michael White, he agreed with Mr. Rudy's comments and added a few more. He found that fewer people made it nicer for him, less bumping into people and visa versa; he didn't have to squeeze through the crowds to get from one point to another. Less of a fight to get to the vendors tables, and you could walk freely around. The crowd Saturday reminded him of how it was on a late Sunday Afternoon in years past. This also made for fewer people at the raffle and some of our Members won some really great prizes. For example, he won a Hotech 1 1/4"-- 2" Laser Collimator that has a retail price of \$145.00, the only problem being is that he bought the same Collimator two years ago at PATS. That collimator works great and he recommends it highly. ✧

Griffith Observatory

75 Years of Public Astronomy
Photos and text by David Nakamoto



This year marks the 75th anniversary of the opening of Griffith Observatory. Friday May 14th was the official start of the year long celebration. Above, you can see Dr. Krupp and councilmember Tom LaBonge as the latter presents the Good Doctor with a certificate acknowledging the 75th anniversary. Behind them is a model of the way Griffith used to look before the last restoration.

There were cupcakes and a special cake shaped to vaguely resemble the venerable 12-inch Zeiss refractor. And a release of 75 balloons from the two side domes, as shown on the next page.

The LAAS has a longer relationship with the Observatory than any other organization, since we started cooperating with each other to serve the public by giving them a look at the heavens through telescopes. Something to remind ourselves as we host our public star parties up at the most widely known and venerated observatory opened to the public. ✧



LAAS Email Lists

The LAAS maintains two E-mail lists, *for LAAS members only*, a general list and an announcements list. Instructions for joining either list can be found in the LAAS webpages:

http://www.laas.org/Resources_Newsgroup.htm

Or look at the bottom of this article for instructions.

The announcements list is intended for announcements of events such as upcoming speakers, special star parties, or other functions planned by the LAAS board. General members are not expected to respond on this list, just to receive announcements. It is a very low traffic list. *Every member should join this group.*

The general list is intended for use by all LAAS members to communicate with each other; ask questions about events, ask questions about astronomy or the LAAS, plan your own events, ask for help with a telescope, or just talk about something relating to astronomy. Traffic will vary greatly depending on member interest & current events.

The LAAS does not automatically put anyone on an E-mail list; you have to

(Continued on page 11)

choose to do it. E-mail is the most efficient way for the board of directors to communicate quickly with the members, and for the members to communicate with each other. We ask all members to join the announcements list, and ask all members to consider joining the general list.

The group is private, and therefore does not come up in a search. To join, send email to: LAAS-subscribe@yahoogroups.com. Include your full name so the moderator can verify your LAAS membership. If approved, you will receive further instructions via email. ✧

Outreach Program

We've got a large number of requests despite the Recession and the cutback in school funding.

We especially need people living in the San Gabriel Valley to go to outreach events there. Nearly all of the regular volunteers live in the San Fernando Valley, so the need in the "other" valley is great.

Come on out to the school and show all the enthusiastic kids, parents, and teachers the night sky. They always appreciate it. And if you get WOW's when they look through you scope, you'll feel good. If no scope, come out anyway and help up set up or answer questions from the kids. So, Outreach volunteers, let's pitch in. I'm sure the kids and adults will appreciate our effort.

Thanks !

Outreach@laas.org (818) 891-3087 ✧

(Editors Note: Be aware that often these requests come with very little advanced notice. Therefore, we won't post any events in the bulletin. The best way to get news of these events is to use the Internet and either join the LAAS Yahoo group or access the LAAS website. To join the LAAS Yahoo group, see page 16.)

Don DeGregori

Griffith Observatory Public Star Party Procedure

If you arrive before 6:00pm, show your LAAS badge or card to the traffic control person at the fork at the top of Vermont road just before you reach the tunnel. You'll be allowed to drive up East Observatory Ave. After 6:00pm, no one is allowed to drive up East Observatory Ave, and you'll need to drive through the tunnel, up West Observatory Ave., and through the public parking lot to the traffic control person at the end of the lot. Show the person there your badge and they should let you through. Once at the U curve in front of the Observatory, temporarily park your car on the side nearest to the observatory and unload your equipment. Mary Brown will be available with a cart to facilitate moving your equipment. Unload your equipment at the spot where you wish to set up. Mary will oversee your equipment while you park along East Observatory Rd. Then set up your equipment.

Volunteers without equipment are also needed. We especially need help with crowd control with the 26-inch telescope.

Those who volunteer should remember that the main focus is to be of service to the patrons at Griffith Observatory and show them the nighttime sky. New Members are not expected to adhere to this policy.

Please check the LAAS website and Yahoo list for changes and updates in any LAAS event.

We still need more members trained in moving the 26-inch, setting it up and preparing it for moving. If you're interested, please attend one of the Griffith public star party events. We normally bring the telescope out around one hour before sunset so we have enough light to do so, weather permitting. We'd like as many members to be trained and comfortable handling the telescope, so that it will always be available for viewing by the public.

Have fun and enjoy! ✧

PJ Goldfinger & David Nakamoto

Lost and Found

Last year a power cord was left at a public star party at Griffith Observatory. It has a "cigarette lighter" connector one end and a DC connector on the other that looks as if it goes with a go-to telescope.

A few months ago, also after a public star party, a 9mm 1.25" eyepiece was found next to the curb where we load and unload.

For further information call David Sovereign at (626) 794-0646 ✧

Map to Monterey Park Observatory

(The place to build your telescope)



LOANER CORNER

Despite the rain, the spring and summer star party season is sneaking up on us. Mars and Saturn are in view in the evening sky. Below are listed the telescopes that are currently available in the loaner program.

LAAS-1 - 4.5" f/8 Celestron reflector on a Polaris mount. This is an easily portable instrument that is still capable of good performance.

LAAS-5 - 6" f/6 Parks reflector on a Polaris clone equatorial mount with a clock drive.

LAAS-8 - 80mm Selsi refractor on an equatorial mount. This is a good telescope for planetary observation.

LAAS-9 - 80mm f/6.25 refractor with a University Optics objective on a heavy duty Celestron camera tripod with a pan-head mount. This RFT is good for the Messier marathon.

All telescopes are equipped with 3 eyepieces. Reflectors include a simple collimation tool and refractors come with a star diagonal

For more information call: David Sovereign at (626) 794—0646. ✧

David Sovereign

EVENTS CALENDAR

Date	Event	Location and Information
June 9th (Wed)	Board Meeting	Garvey Ranch Park Class Room. 8:00pm to 10:00pm
June 12th (Sat)	Dark Sky Night	Lockwood Valley
June 14th (Mon)	General Mtg	Griffith Observatory, Event Horizon Theater, 7:45pm to 9:45pm. Speaker information below.
June 19th (Sat)	Public Star Party	Griffith Observatory, 2:00pm to 10:00pm, See pg 12 for details on how to attend.
Jul 7th (Wed)	Board Meeting	Garvey Ranch Park Class Room. 8:00pm to 10:00pm
Jul 10th (Sat)	Dark Sky Night	Lockwood Valley
Jul 12th (Mon)	General Mtg	Griffith Observatory, Event Horizon Theater, 7:45pm to 9:45pm. Speaker information below.
Jul 17th (Sat)	Public Star Party	Griffith Observatory, 2:00pm to 10:00pm, See pg 12 for details on how to attend.

General Meeting Speaker Information

The Speaker for June will be our own President, Timothy Thompson. His topic will be on the first results from the Herschel Infrared Space Telescope. The speaker for July is not known as we go to press. ✧

Sky and Telescope Subscriptions

Sky and Telescope subscriptions renewals should be sent directly to Sky Publishing. To start a Sky and Telescope subscription, contact the LAAS Treasurer (see the contact information on page 2) directly to get the club rates, then thereafter send the renewal bills directly to Sky Publishing. ✧

Astronomy Magazine Subscriptions

For those that subscribe to Astronomy Magazine through the LAAS, the rate is \$34 a year, \$60 for two years. ✧



LAAS Home Page: <http://www.laas.org>
LAAS Bulletin Online: http://www.laas.org/Resources_Newsletter.htm

Membership Annual Dues:

Youth	\$ 20.00
Regular (18-65)	\$ 45.00
Senior Citizen (65 and up)	\$ 30.00
Senior Family	\$ 40.00
Family	\$ 60.00
Life	\$ 500.00

Additional fees:

Charter Star member	\$ 30.00
Star member, with pad	\$ 70.00
Star member, no pad	\$ 60.00
Printed Bulletin	\$ 15.00

(Membership due date is indicated on the mailing label)

HANDY PHONE LIST



LAAS Answering Machine	(213) 673-7355
Griffith Observatory	
Program.....	(213) 473-0800
Sky Report.....	unavailable for now
Lockwood Site	(661) 245-2106
	(not answered, arrange time with caller.)
	Outgoing calls – collect or calling card)
Mt. Wilson Institute.....	(626) 793-3100