

# PRIME FOCUS

Tri-Valley Stargazers

December 2001



## Meeting Info:

### What

Winter Solstice Potluck

### Who

You

### When

December 14, 2001

Set up at 6:30 pm

Eating at 7:00 pm

### Where

Unitarian Universalist

Church in Livermore

1893 N. Vasco Road

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### Christmas Tree Cluster

The Christmas Tree Cluster (NGC 2264) is a large loose cluster of about 20 bright stars and 100 fainter stars in Monoceros. The brightest star in the cluster, 15 Monocerotis (aka S Monocerotis), represents the base of the tree. The Cone Nebula is very close by and points to the star that represents the top of the tree. The cluster is about magnitude 4.1 and 2,400 light years away. This image is upside-down from how it appears in the sky. *Photo: David Malin*

## December Meeting

Our December meeting will be our traditional Winter Solstice Potluck. TVS will provide ham, turkey, soft drinks, tea, coffee and all the table and plastic ware you could ever possibly want. What you need to bring depends on the first letter of your last name:

- A - F veggie or fruit side dish
- G - L dessert
- M - R green salad or rolls and butter
- S - Z rice or potato side dish

Plan on bringing enough food to feed ten hungry astronomers. If you wish to bring an item listed under a letter other than your own, please trade "categories" with someone else. Last year we had *a lot* of potatoes and rice! Please note that our meeting time has changed for this meeting. We'll start setting up the room at 6:30 p.m. and will begin the feasting at 7:00. Feel free to bring family members and friends for this evening of food, drink and general all-around levity.



## News & Notes

### Notice Anything Different?

I hope that by now you have noticed a slight difference in the look of the newsletter. I, Debbie Dyke, have decided to take on the daunting task of producing *Prime Focus*. I'll probably be tweaking the layout a bit more in the next few issues, so don't be surprised to see a few changes from issue to issue.

Now I'm not too keen on the idea of having to write the entire newsletter on my own, so I'm asking all of you for some help. If you have any articles to contribute, please send them my way. I'm looking for all kinds of material – reviews of astro-related books or products, trips you might have taken recently, astrophotos – you name it! You can e-mail your submission(s) to me at [ddfam@pacbell.net](mailto:ddfam@pacbell.net) or call me at 925-461-3003. Submission deadlines are the weekend following the TVS lecture meetings.

Many thanks to our interim editor **Mike Rushford** for continuing to produce the newsletter after our previous “full-time” editor **Alane Alchorn** retired from her many years of newsletter service (thanks Alane!).

Keeping with the newsletter theme, a plea...



### Help TVS Save Money

It costs TVS approximately \$150 a month to print and mail *Prime Focus* to all the members on the mailing list. If you have web access, please consider forgoing the paper version and switching to the web version. There are

several advantages to the *Prime Focus* web version: it's in color, it's available at least a week before the paper version arrives at your door, and most importantly, it saves TVS money. If you're interested in making the switch, please send an e-mail with your request to [tvst@trivalleystargazers.org](mailto:tvst@trivalleystargazers.org). Special thanks to the anonymous TVS member who underwrote the costs of printing the December newsletter. Thanks Santa Anonymous!

### Election Results

November is the month for elections, and at last month's TVS meeting we had one of our own. Members decided to re-elect our current slate of officers and Board of Directors. Our 2001, and now 2002, list of officers and directors are:

President: Chuck Grant      Vice Pres: Gary Steinhour  
Treasurer: Mike Anderson      Secretary: Maggie Halberg

Directors: Alane Alchorn, Jim Alves, Dave Anderson, Dennis Beckley, Paul Caswell, Rich Combs, Debbie Dyke,

Gert Gottschalk, Kathleen Kelley, Signe McIntire, Dave Rodrigues, Frank Rogue, Mike Rushford, Debbie Scherrer, Al Stern, John Swenson, Norm Thomas, and Phil Waide.

### Dues Are Due!!

It's that time of year again. Membership dues for year 2002 are due in January. As usual, TVS offers discounted subscriptions to *Astronomy* (\$29) and *Sky & Telescope* (\$29.95) magazines. The subscription offer ends in February, so make sure you get your request in soon. You can find the renewal/application form on the last page.

While you're filling out the form, please take the time to fill out the questionnaire as well. Believe it or not, we actually do read them and really are interested in what our members are thinking.

### 2002 TVS Meeting Dates

The new year brings on a new set of meeting dates. For the next two years, our monthly lecture meetings will meet on the **third** Friday of the month, with the Board meeting on the Monday following the lecture meeting. Here are the dates for 2002:

Lecture Meeting	Board Meeting	Prime Focus Deadline
Jan. 18	Jan. 21	Jan. 26
Feb. 15	Feb. 18	Feb. 23
Mar. 15	Mar. 18	Mar. 23
Apr. 19	Apr. 22	Apr. 27
May 17	May 20	May 25
June 21	June 24	June 29
July 19	July 22	July 27
Aug. 16	Aug. 19	Aug. 24
Sep. 20	Sep. 23	Sep. 28
Oct. 18	Oct. 21	Oct. 26
Nov. 15	Nov. 18	Nov. 23
Dec. 20	Dec. 23	Dec. 28

Sneak Preview: Our January speaker will be Ken Crowell. Ken will be speaking about his new book *The Universe at Midnight* and most likely will bring some copies to sell and autograph.

Newsletter header image: NGC 891 in Andromeda. This edge-on spiral is at 10th magnitude and is 13.5' in diameter. You can find this object between Almach (Gamma Andromedae) and M34, at 2°22.6m RA, +42°21' Dec.  
Photo: Palomar 48" Schmidt

## Get Well Wishes

**Steve Anderson**, who shares a TVS Family membership with his brother, past-president **Dave Anderson**, was admitted to a hospital on October 25 because of breathing problems. On November 9, after many tests, it was revealed that coronary artery disease had restricted the flow of blood to Steve's heart, causing at least one heart attack. On the 12th, Steve underwent triple coronary artery bypass graft surgery. I'm happy to report that he is slowly but steadily improving. We all wish Steve a speedy recovery and hope to see him at a TVS meeting soon. If you would like to write to Steve, his address is 5338 Grant Ct., Fremont, CA, 94538-1021. You can also e-mail him at sma4@home.com.

## Help Wanted

Do you live in the Hayward/Castro Valley area and frequently attend TVS meetings? A new member, Warren Phillips would like to car pool with you. Warren is 87 and can't drive at night. For more information, contact Chuck Grant at charleswgrant@home.net or at 925-422-7278.

Do you have experience with a Meade LX200? We received the following request via the TVS e-mail:

I would like to hire someone to come over and set-up our Meade LX200 Smart drive telescope so it can track automatically and send the images to a computer screen. We live in Pleasanton. I would also like someone to come to a party on Saturday, December 1st and star gaze with the people in attendance.

For more info about this little job, please contact Chuck Grant at the e-mail or phone number listed above.

## Money Matters

At the November Board meeting, our Treasurer **Mike Anderson** reported the current balance of our various accounts:

Checking	\$1,295.77	
CD #1	\$3,807.73	matures 11/17/01
CD #2	\$2,350.18	matures 11/27/01
CD #3	\$2,015.22	matures 01/16/02

CD #2 holds the key deposits for H2O, to be returned to members when they surrender their keys. By the time this goes to press, two CDs will have matured. The CDs will automatically roll over and continue to earn interest.

## Loaner Scope Winter Special

The cold winter weather tends to keep us indoors at night. However, winter can bring us many good clear observing nights. TVS wants you to get out and enjoy the winter night skies by having a two for one sale. Rent any scope in the Loaner Scope program for a month and receive another rental month for free.

## Observing Books for Sale

Treasurer **Mike Anderson** has acquired a few copies of the *2002 RASC Observer's Handbook* and the *RASC Observer's Calendar 2002* for sale at upcoming TVS meetings. The *Handbook* can be purchased for \$15, a real savings from the \$22 retail price. The calendar is yours for just \$10. There is a limited supply and they are available on a first come first served basis.

### Officers

#### President:

Chuck Grant  
charleswgrant@home.net  
925-422-7278

#### Vice-President:

Gary Steinhour  
steinhour1@juno.com

#### Treasurer:

Mike Anderson  
andersonm@prodigy.net

#### Secretary:

Maggie Halberg

### Board of Directors

Alane Alchorn, Jim Alves, Dave Anderson, Dennis Beckley, Paul Caswell, Rich Combs, Debbie Dyke, Gert Gottschalk, Kathleen

Kelley, Signe McIntire, Dave Rodrigues, Frank Rogue, Mike Rushford, Debbie Scherrer, Al Stern, John Swenson, Norm Thomas, Phil Waide

### Volunteer Positions

#### Librarian:

Jim Alves  
jim\_alves\_engr@yahoo.com  
925-634-6220

#### Newsletter Editor:

Debbie Dyke  
ddfam@pacbell.net

#### Program Director: unfilled

#### Loaner Scope Manager:

John Swenson

#### Refreshments:

Debbie Dyke

### Webmaster:

Chuck Grant

### Observatory Director/

#### Key Master:

Chuck Grant

### School Star Party Chair:

Rich Green (unofficially)

### Public Star Party Chair:

Rich Green (unofficially)

### Historians:

Paul Caswell & Debbie Dyke

### Addresses

Mailing:  
Tri-Valley Stargazers, P.O. Box 2476, Livermore, CA 94551

### Lecture Meeting:

Unitarian Universalist Church,  
1893 N. Vasco Road, Livermore

### Board Meeting:

Round Table Pizza,  
1024 E. Stanley Blvd.,  
Livermore

### Web & E-mail

<http://www.trivalleystargazers.org>

[tvst@trivalleystargazers.org](mailto:tvst@trivalleystargazers.org)

### Eyes on the Skies

Eyes on the Skies is a robotic solar telescope run by Mike Rushford ([rushford@eyes-on-the-skies.org](mailto:rushford@eyes-on-the-skies.org)). You may access it by visiting <http://www.eyes-on-the-skies.org>.

## A Geek Vacation *by Debbie Dyke*

Last month, a few of my astro buddies from the EAS (**Conrad Jung**, **Don Saito**, and **Alan Roche**) and I started toying with the idea of making a weekend trip to Los Angeles to visit the Griffith Observatory before it closes in January 2002 for its two year renovation project. As we started making plans, we checked around to see what else we might visit while we were down there. We discovered that JPL conducts public tours, as does Mt. Wilson, provided that you contact them ahead of time to schedule the tours. Conrad managed to schedule the tours for us, as well as a behind the scenes tour for Griffith.

We arrived in L.A. on the evening of November 1. The following afternoon we made our way to JPL for our scheduled public tour. The tour lasted two hours and



The full-size Voyager model at JPL.

involved a bit of walking. The first stop on our tour was a visit to their auditorium to watch a short video about the past, present and future of JPL (narrated by Jody Foster). Along the side walls of the auditorium were several models of JPL spacecraft – the most interesting being the full size replica of Voyager. After the video we moved to an adjoining room to see more models of JPL spacecraft, including full size replicas of Galileo, Sojourner, and a prototype of the next generation of Mars rovers. From there we headed over to another building and into a very large (about four stories high) clean room where a Cassini/Huygens duplicate stood. Cassini is quite large, standing about two stories high.



The Cassini duplicate.

After the public tour was over the EAS gang was met by Steve Edberg for a more behind the scenes tour. Steve took us to see the Mars Yard where JPL tested the Sojourner prototypes by taking them out for a test spin in a recreated Martian landscape (what a great landscaping idea for your backyard!). We then went into another building where we were fortunate to see the “airbags” for the next wave of Mars Landers being tested. We came in just as they were starting the deflation process. Fun stuff!

The 12-inch Zeiss refractor at Griffith.



The Coelostat at Griffith.

Our evening was spent taking a behind the scenes tour of the Griffith Observatory. We were taken around to see some of the displays, including some original Chesley Bonestell paintings. We then were taken upstairs to see the solar coelostat (an area not accessible to the public). From there we went behind the planetarium. Strains of Pink Floyd filled the air as the Laserium show played on below us. The 12-inch Zeiss refractor was the next stop where we enjoyed a very nice view of the almost full moon. We weren't able to discern any noticeable chromatic aberration, something the Chabot refractors suffer from. Our last stop was inside the planetarium for a quick show and tell about their Zeiss Mark IV projector, which will be replaced by a Mark IX (which is what Chabot has) during the remodeling.



The 100" Hooker telescope at Mt. Wilson.

Saturday we ventured forth to Mt. Wilson for a prearranged tour of the observatory. And what a tour it was, with our docent being Don Nicholson. Don's father Seth worked at Mt. Wilson for thirty years and was the discoverer of four of Jupiter's moons. Don spent many summers as a child on the mountain



The 150' Solar Tower at Mt. Wilson.

## Astro Events

and had a wealth of knowledge to share. We went inside the 150' Solar Tower and got to see the sun's image projected onto a panel. We then ventured over to where the Telescopes in Education (TIE) observatory was set up. The little sliding roof observatory houses a C-14 which teachers and students from around the world can request time on and control remotely from their location. The head of the program was there and told us a little bit about the program.

Our final stop of the day was the 100-inch Hooker telescope. We were able to peer through open sections of the scope and saw the back of the mirror – very green glass. But by far the best part was when one of the scope operators came by and took us for a spin around the room. Literally. The upper level platform that encircled the scope is attached to the dome, so when the dome spins around you go with it. We all stepped outside the dome onto the catwalk and took in a 360 degree view just by standing still!

If you wish to visit any of these places, visit their web sites first for more information:

Griffith Observatory – [www.griffithobs.org/index.html](http://www.griffithobs.org/index.html)

Jet Propulsion Laboratory – [www.jpl.nasa.gov](http://www.jpl.nasa.gov)

JPL tour info – [www.jpl.nasa.gov/psd/pt.html](http://www.jpl.nasa.gov/psd/pt.html)

Mt. Wilson – [www.mtwilson.edu](http://www.mtwilson.edu)

Friends of Mt. Wilson – [www.mwoa.org](http://www.mwoa.org)  
(they're the ones that conduct the tours)

## Calendar of Events

Below is a little list of a few upcoming events that TVS members might be interested in.

### December

Chabot Space & Science Center presents *The Christmas Star* planetarium show. Dates and times vary, so call Chabot at 510-336-7300 or visit [www.chabotspace.org](http://www.chabotspace.org) for more info.

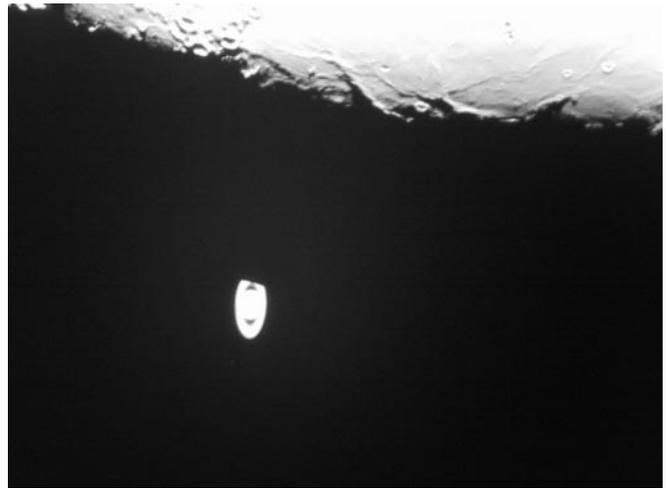
Morrison Planetarium will also be showing *The Christmas Star*. As with Chabot, dates and times vary, so call 415-750-7141 or visit [www.calacademy.org/planetarium](http://www.calacademy.org/planetarium) for more info.

### December 11, 7:30 p.m. \$3 admission

Benjamin Dean Lecture Series at Morrison Planetarium in San Francisco. Dr. Gia Dvali of New York University talks about *The Universe's Unseen Dimensions*. For more info, call 415-750-7141 or visit [www.calacademy.org/planetarium](http://www.calacademy.org/planetarium).

A couple of astro newsworthy events took place in November. First was the occultation of Saturn by the Moon on November 3rd. The occultation was not visible from the Bay Area, but **Gert Gottschalk's** friend in Germany was able to photograph it.

The big astro event of the month was the Leonid meteor storm, although around here it was more like a heavy shower instead of a storm. Regardless, it was still quite a sight with the peak bringing from 800 to 1200 meteors in an hour.



### Saturn Occultation

This image was taken by Volker Gerhardt near Munich on November 3. Volker used a 20" Obsession Dobsonian and a Canon Digital Ixus held up to the eyepiece.



### Leonid Meteor Shower

This image was taken from H2O at 2:35 a.m. PST, November 18, by Gert Gottschalk. There are at least two meteors visible in this image. Details: 16mm f2.8 fisheye lens, 10 minute exposure.

## What's Up *by Debbie Dyke*

All times Pacific Standard unless otherwise noted.

### December

- 3 Mon Jupiter 1.6° S of Moon 3:00 a.m.  
Saturn at opposition 6:00 a.m.  
1973 Pioneer 10 becomes the first spacecraft to flyby Jupiter.
- 4 Tue Mercury in superior conjunction 2:00 p.m.
- 6 Thur Mercury at aphelion.  
Moon at perigee (370,117 km/229,472 mi) 3:00 p.m.  
Pluto in conjunction with the Sun 8:00 p.m.
- 7 Fri **Last Quarter** 11:52 a.m.  
**Comet LINEAR** (C2000/WM1) is at its brightest – around mag. 5. Look for it in Cetus, about 2° S from Deneb Kaitos
- 13 Thur **Geminid meteor shower** peak 8:00 p.m.
- 14 Fri **New Moon** 12:47 p.m.  
**Annular Solar Eclipse.** From the Bay Area, a small bite will be taken out of the Sun. Eclipse begins at 11:57 p.m., maximum at 12:54, and ends at 1:49 p.m.  
**Tri-Valley Stargazers general meeting.** Unitarian Universalist Church, 1893 N. Vasco Road, Livermore.  
Special potluck start time of 6:30 for set-up and 7:00 for eating.  
1546 Tycho Brahe born.  
1962 Mariner 2 becomes the first spacecraft to flyby Venus.
- 15 Sat 1970 Venera 7 becomes the first craft to land on Venus and transmit data back to Earth.
- 16 Sun **Tri-Valley Stargazers discussion meeting.** 2:00 p.m. at the Round Table Pizza on 1024 E. Stanley Blvd., Livermore. Get together with your fellow members to chat about all things astronomy related.
- 17 Mon **Tri-Valley Stargazers Board meeting.** 7:00 p.m. at the Round Table Pizza in Livermore.  
Neptune 4° N of Moon 11:00 p.m.
- 19 Wed Uranus 4° N of Moon 4:00 a.m.
- 21 Fri Venus at descending node.  
Moon at apogee (404,633 km/250,872 mi) 5:00 a.m.  
**Winter Solstice** 11:21 a.m.
- 22 Sat **Ursid meteor shower** peak 4:00 a.m.  
**First Quarter** 12:56 p.m.
- 24 Mon 1968 Apollo 8 astronauts are first to orbit the Moon.
- 26 Wed Mercury at greatest heliocentric latitude south.
- 27 Thur 1571 Johannes Kepler born.
- 28 Fri **Saturn Occultation.** Saturn disappears around 12:30 a.m. and reappears around 1:25 a.m.
- 30 Sun **Full Moon** 2:40 p.m.  
**Penumbral Lunar Eclipse.** About 80% coverage from the Bay Area. Eclipse begins at 12:25 a.m., maximum at 2:29 a.m., and ends at 4:33 a.m.  
Jupiter 1.2° S of Moon 6:00 a.m.

### January

- 1 Tues Jupiter at opposition.
- 2 Wed Moon at perigee.
- 3 Thur **Quadrantid meteor shower**
- 4 Fri **Last Quarter Moon** 7:55 p.m.

## 2001-2002 Questionnaire

2001 is the 13th year that a questionnaire will be used to improve the quality of the club programs and activities. The details of your response will be kept confidential. Summary results will be published in the April issue of *Prime Focus*. Please answer all questions that apply. Attach an extra sheet of paper if necessary.

How did you learn about the club? \_\_\_\_\_

Why did you join? \_\_\_\_\_

Are we meeting your expectations?  Yes  No

Comments \_\_\_\_\_

How long have you been interested in astronomy? \_\_\_\_\_ years

How long have you been a member?  <1 year  1-3 years  3-5 years  over 5 years

How often do you attend the monthly meetings?

Almost always  About half the time  Occasionally  Never

How often do you go to our dark sky site, H2O?

Several times a month  Once a month  Every 2-3 months  1-3 times a year  Never

Rate the following activities for their importance to you (1 = very important, 5 = no interest).

\_\_\_\_\_ Monthly meetings/speakers

\_\_\_\_\_ CCD imaging

\_\_\_\_\_ Star parties at our dark site

\_\_\_\_\_ Astrophotography (film)

\_\_\_\_\_ Public star parties

\_\_\_\_\_ Deep-sky observing (faint objects)

\_\_\_\_\_ Field trips to Yosemite, White Mountains, etc.

\_\_\_\_\_ School programs/presentations

\_\_\_\_\_ Using the 30" telescope at Fremont Peak

\_\_\_\_\_ Computer programs, internet, bulletin boards

\_\_\_\_\_ Telescope making

What kind of instrument do you use most for observing? \_\_\_\_\_

What program topics would you like us to cover at the meetings? \_\_\_\_\_

Do you have a computer?  Yes  No

Type?  Mac  PC

Do you have e-mail?  Yes  No

Do you have access to the internet?  Yes  No

If so, what type of connection?  Modem  DSL  Cable  Other (\_\_\_\_\_)

Have you visited the TVS web page ([www.trivalleystargazers.org](http://www.trivalleystargazers.org))?  Yes  No

Do you use your computer for astronomy related purposes?  Yes  No

If so, what? \_\_\_\_\_

Have you ever borrowed books from the TVS library?  Yes  No

Books you would like us to have: \_\_\_\_\_

Are you interested in helping with a school program?  Yes  No

How is the newsletter format? \_\_\_\_\_

How is the newsletter content? \_\_\_\_\_

Are there any activities that you would like us to provide? \_\_\_\_\_

Can you suggest any improvements to the club? \_\_\_\_\_

# PRIMEFOCUS



Tri-Valley Stargazers  
P.O. Box 2476  
Livermore, CA 94551

## Tri-Valley Stargazers Membership Application

Member agrees to hold Tri-Valley Stargazers, and any cooperating organizations or landowners, harmless from all claims of liability for any injury or loss sustained at a TVS function.

Name \_\_\_\_\_ Phone \_\_\_\_\_ e-mail \_\_\_\_\_

Address \_\_\_\_\_

Choose one: \_\_\_\_\_ I wish to download *Prime Focus* from the web (an e-mail notification will be sent to me when it's available for download).  
\_\_\_\_\_ I wish *Prime Focus* to be mailed to me.

Do not release my: \_\_\_\_\_ address, \_\_\_\_\_ phone, or \_\_\_\_\_ e-mail information to other TVS members.

Membership category: \_\_\_\_\_ \$5 Student \_\_\_\_\_ \$20 Individual \_\_\_\_\_ \$25 Family  
\_\_\_\_\_ \$20 Hidden Hill Observatory (H2O) refundable key deposit (key property of TVS)  
\_\_\_\_\_ \$29.95 *Sky & Telescope* magazine subscription (for one year)  
\_\_\_\_\_ \$29.00 *Astronomy* magazine subscription (for one year)  
\$ \_\_\_\_\_ Tax deductible contribution to Tri-Valley Stargazers  
\$ \_\_\_\_\_ TOTAL – Return to: Tri-Valley Stargazers, P.O. Box 2476, Livermore, CA 94551

Membership information: Term is one calendar year, January through December. Student members must be less than 18 years old, or still in high school.