

BULLETIN

volume 84, issue 12 *December 2010*

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**OVER 80 YEARS OF
ASTRONOMY IN LOS ANGELES**
Los Angeles Astronomical Society
 Griffith Observatory
 2800 East Observatory Ave.
 Los Angeles, CA 90027

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 Treasurer@laas.org
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 Secretary@laas.org
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Editor's Corner



his month begins our election cycle, just as The Big Boys finish with theirs. The November general meeting starts the nomination period, and the election will end on the December meeting on the 13th. On page 11 is the ballot. Please fill it in and mail it as soon as you can. You might also email your results to:

Secretary@laas.org

Comet Hartley is making a nice pass this month. While not a naked eye comet, it still is placed well for Northern observers, and is a nice telescopic object. Give it a look !

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 October board meeting are :

- Scott, Molly, and Cory Goldstein
- Annie and Georges Gross
- Kevin Jaros
- Chris Kerrigan
- Robert Lockart
- Carrie Smith

The ones approved at the November board meeting are :

- Jonathan Anderson
- Don McClelland
- Ernesto Montano
- Sophia Stefan

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



Michael Rudy Penny Kunitani, ready to greet inquisitive visitors to the LAAS booth at this year's PATS show.

Report from The Pacific Astronomy and Telescope Show

By Carla Johns

Once again, the Pacific Astronomy and Telescope Show (PATS) hit a home run. The speakers were top-notch and the vendors had something to tempt all of us. The LAAS booth was very eye-catching and quite educational as well. Special thanks go to Rose Clayton, Reynold Ray, Mary Brown, Sheri Breaux and Jody Dye for putting together such an exquisite display, including a mirror-making exhibit. Thanks to Tim Thompson for arranging for the booth, as well as performing the part of 'walking encyclopedia' and encouraging those he inspired to join our club.

Mary Brown organized the door prizes and raffled two Telrads. The general public may not be aware of the special connection between the LAAS and the ingenious device, which is mounted on the 100-inch Hooker telescope at Mt. Wilson Observatory and many other large instruments used for research. In the late 1970's, Steve Kufeld invented this economical sight to help both amateur and professional astronomers alike to find their way across the sky. Steve was a long-time member of the LAAS before his untimely passing in 1997. Congratulations to those who won the door prizes and shared in our rich legacy.

Finally, the LAAS would like to thank all of the fantastic volunteers who staffed our booth. They greeted prospective new members with hospitality and proudly shared all the wonderful activities of our club. A big, hearty thank you to Sheri Breaux, Steve Dashiell, Robert Egan, Paul Ko, Penny Kunitani, Scott Miller, John O'Bryan, Heven Renteria, Richard Roosman, Michael Rudy, Duncan Sinclair, David Sovereign and Mike White!

I'm already looking forward to next year! ✧



Above, Reynold Burbank and Rose Clayton, with Sheri Breaux squeezed in between, at the LAAS booth at this year's PATS show.



Penny Kunitari greets fellow LAAS members.

The Runaway Star

by Timothy Thompson

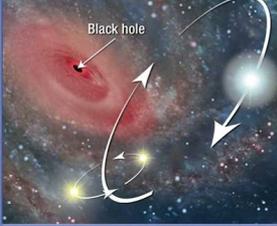
Our sun orbits around the Galaxy at about 220 km/sec, or 495,000 miles/hr, relative to the center of the Galaxy. The stars in the vicinity of the sun orbit around the Galaxy in like manner, but of course in slightly different orbits, so there is a relative velocity between the sun and each of the other nearby stars. That average relative velocity is about 20 km/sec or 45,000 miles/hr. The high end of the relative velocity distribution is about 50 km/sec or 112,000 miles/hr. That holds for the stars that go around the Galaxy in orbits similar to that of the sun, but there are exceptions. For instance, Kapteyn's Star is a spectral class M1 red dwarf only about one quarter of the sun's mass and only 13 light years away, but its velocity relative to the sun is a hefty 245.5 km/sec or 552,400 miles/hr. The large relative velocity shows that Kapteyn's star is not part of the native population moving along with the sun. It is an interloper from the Galactic halo, on a highly eccentric, comet style orbit around the Galaxy, and near its perigalacticon and therefore moving about as fast as it ever would, thanks to Kepler's laws.

Stars moving as fast as Kapteyn's Star, relative to the sun, are quite rare. But there is an exclusive class of exceptionally fast stars, known as hypervelocity stars, only 16 of which have been observed in our Galaxy. Now, astronomers using the Hubble Space Telescope (HST) have recently confirmed the fastest of the hypervelocity stars yet observed in the Milky Way. The star, designated HE 0437-5439, was discovered in 2005, far out in the Galactic halo, 200,000 light years (ly) from the center of the Milky Way, and only 65,000 ly from the Large Magellanic Cloud (LMC). Indeed, moving so fast, it was assumed that the star had been ejected from the nearby LMC. This idea was helped along when it appeared that HE 0437-5439 shared a common chemical composition with LMC stars. But the HST was used to observe the star on two occasions 3.5 years apart, allowing its true proper motion to be measured. We now know that the star did not originate in the LMC. Rather, its track takes it back to the heart of the Milky Way, straight back to the supermassive black hole at the center of the Galaxy. Moving at 723 km/sec (1,600,000 miles per hour) relative to the sun, HE 0437-5439 is moving faster than the escape velocity for the Galaxy and is doomed to fly off

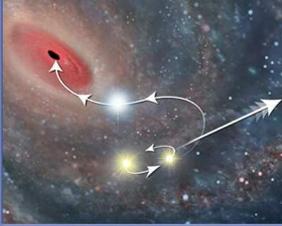
(Continued on page 7)

Triple-star System Passes Near Milky Way's Central Black Hole

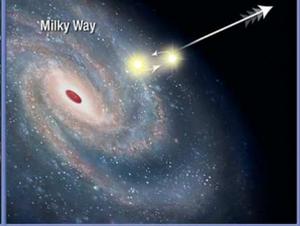
1 Triple-star system moves near black hole at center of Milky Way galaxy.



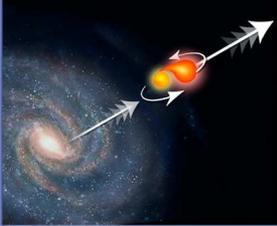
2 One star falls toward black hole; binary pair recoils and is ejected.



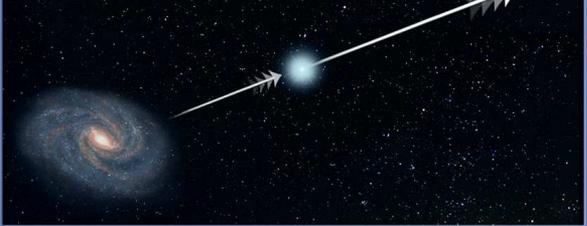
3 Binary system leaves galaxy.



4 Binary merges to form blue straggler.



5 Blue straggler travels away from galaxy.



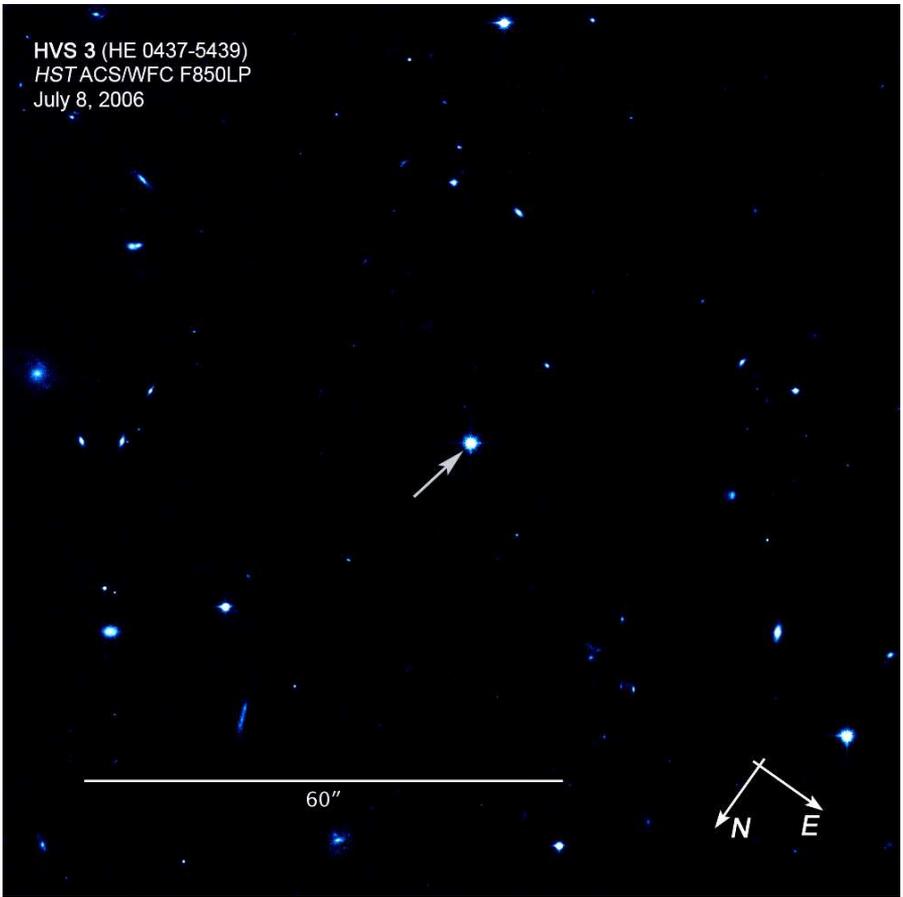
This diagram from the HST press release shows how the original triple star encounters the supermassive black hole and the compact double is ejected at very high speed (in excess of 800 km/sec). Subsequently the compact double merges to form a blue straggler star in the Galactic halo.

Image credit: Space Science Telescope Institute

into the intergalactic space of the Local Group.

There's just one catch. HE 0437-5439 is a main sequence star weighing in at about 9 solar masses, and stars that massive only last on the main sequence for about 20,000,000 years. But it takes 100,000,000 years to get where it is from where we know it started. The only way around this is to have a triple star approach the supermassive black hole at the center of the Galaxy and let the black hole's gravity steal the outer star of the triple, and eject the close binary with all the extra momentum. Then let the close binary merge, forming a blue straggler star, just as we see in the color – magnitude diagrams for globular clusters. This is actually a physically reasonable picture, and solves all the mystery of how a star that can't be over 20,000,000 years old can go on a 100,000,000 year long journey at speeds no other interaction can create. ✧

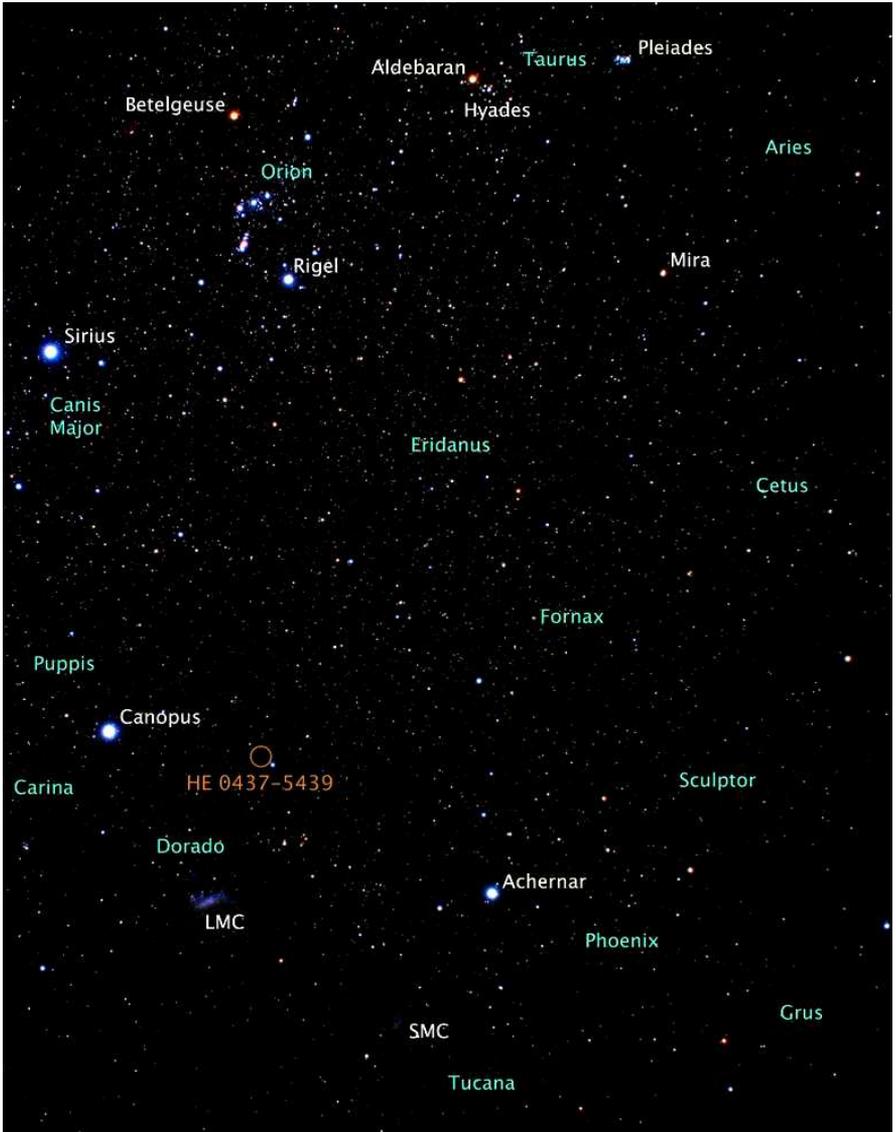
HVS 3 (HE 0437-5439)
HST ACS/WFC F850LP
July 8, 2006



This is an HST image of the star HE 0437-5439.
Image credit: Space Telescope Science Institute



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



This is a finder chart to locate HE 0437-5439. The star is not visible from our northern viewpoint, found in the vicinity of the LMC.
Image credit: Space Telescope Science Institute

2010 LAAS Officer and Board Ballot

Please print out and elect one person per officer position and eight board members. Mail to

LAAS Secretary
c/o Los Angeles Astronomical Society
Griffith Observatory
2800 East Observatory Ave.
Los Angeles, CA 90027

(Vote for one only)

President: Michael Rudy
 Mary Brown

(write in) _____

(Vote for one only)

Vice President: Richard Roosman
 Michael Rudy

(write in) _____

(Vote for one only)

Secretary: Stephen Dashiell

(write in) _____

(Vote for one only)

Treasurer: John O'Bryan

(write in) _____

(Vote for eight only)

Directors: David Nakamoto
 Carla Johns
 Michael White
 Richard Roosman
 Herbert Kraus
 Herman Meyerdierks
 Don DeGregori
 John Price
 Timothy Thompson
 Andee Sherwood
 David Sovereign

(write in) _____

(Continued on page 11)

Remember that, while you may nominate or vote for anyone, officers must be from those board members who served this past year, and it is required that all nominees be contacted and their desire to run for the board be confirmed directly with that person.

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 join the LAAS Yahoo group. To join the LAAS Yahoo group, see below.)

Don DeGregori

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:

(Continued on page 12)

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.*

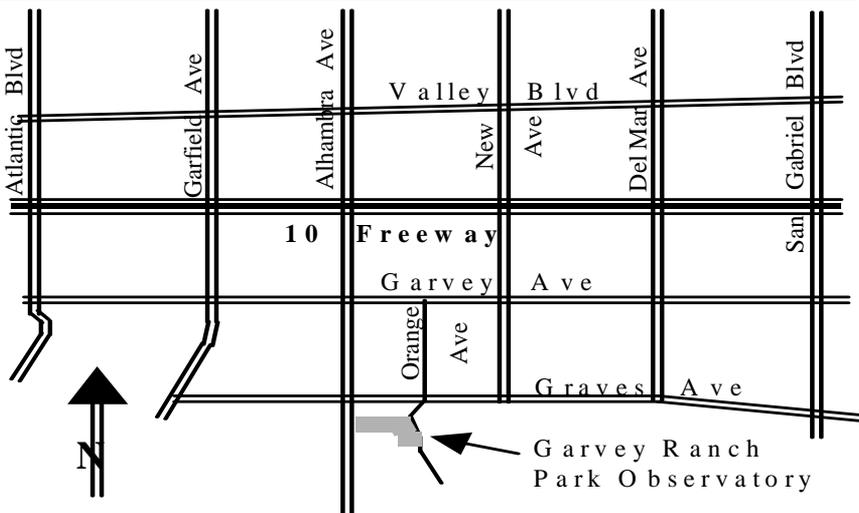
The general list is intended for use by all LAAS members to communicate with each other; ask questions about events, ask questions about astronomy or the LAAS, plan your own events, ask for help with a telescope, or just talk about something relating to astronomy. Traffic will vary greatly depending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

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

(Continued on page 13)

Map to Monterey Park Observatory

(The place to build your telescope)



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

Griffith Observatory Public Star Party Procedure

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 LAAS 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 group messages for changes and updates in any LAAS event.

To be trained in moving, setting up, and preparing the 26-inch, please attend one of the Griffith public star party events. We normally start setting it up around one hour before sunset, weather permitting. We'd like as many members to be trained and comfortable handling the telescope.

Have fun and enjoy! ✧

PJ Goldfinger & David Nakamoto

2011 Annual Banquet

Here are the current details for the 2011 annual banquet. Please check future bulletins for any updates and changes.

Date : Sunday, Jan 23rd, 2011

Time : 5:00pm for the bar
6:00pm for dinner

Location : Monterey Hills Restaurant
3700 Ramona Blvd., Monterey Park
<http://www.montereyhillrestaurant.com/>

Cost : \$45 per person
\$22.50 for children under 13

Mail reservations and checks to :

LAAS Treasurer
P.O. Box 56084
Sherman Oaks, CA 91413

Make checks out to :

Los Angeles Astronomical Society.

On the note line, write **"2011 banquet reservation"**.

See ya there !

Member Show and Tell Special Instructions

The December general meeting is the member's Show and Tell. Due to equipment limitations, please adhere to the following guidelines :

1. Only CDs, DVDs, and flash memory sticks accepted.
2. Most image file formats acceptable, but please begin each with a number to insure that they're presented in the correct order, and JPGs are preferable.
3. We can also accept PowerPoint files.

(Continued on page 15)

EVENTS CALENDAR

Date	Event	Location and Information
Dec 4th (Sat)	Dark Sky Night	LAAS Lockwood Valley site
Dec 8th (Wed)	Board Meeting	Garvey Ranch Park Class Room. 8:00pm to 10:00pm
Dec 11th (Sat)	Public Star Party	Griffith Observatory, 2:00pm to 10:00pm, See pg 13 for details on how to attend.
Dec 13th (Mon)	General Mtg	Griffith Observatory, Event Horizon Theater, 7:45pm to 9:45pm. <i>Member Show -and-Tell!</i> (See instructions prev. pg.) <i>Officer and board and officer elections!</i>
Dec 20th (Mon)	Lunar Eclipse Public Party	Griffith Obs. 8:00pm to 1:30am
Jan 1st (Sat)	Dark Sky Night	LAAS Lockwood Valley site
Jan 5th (Wed)	Board Meeting	Garvey Ranch Park Class Room. 8:00pm to 10:00pm
Jan 15th (Sat)	Public Star Party	Griffith Observatory, 2:00pm to 10:00pm, See pg 13 for details on how to attend.
Jan 23rd (Sun)	Annual Banquet	Details on opposite page (pg 14) Speaker not determined

4. **NO SLIDES!** We do not have the projecting capabilities for these.
5. We prefer to use the theaters laptop (MacIntosh) to limit equipment changeovers and insure that there are no interface problems with the projection system. If you adhere to the above guidelines your files should play back on the MacIntosh.

Dec 20th/21st Lunar Eclipse Public Star Party

Griffith is hosting a public star party on the night and early morning of Dec 20th and 21st. The gates will open for LAAS members with equipment at 7:30pm. The star party will start at 8:00pm. It will last until 1:30am Tuesday morning. Of course, all of this depends on the weather; clouds or worse will cancel the party.

Griffith Observatory, the star store, and Wolfgang's Café will all be open. This event will be treated like one of the monthly Saturday star parties with the exception of the hours.

If you wish to attend, please inform David Nakamoto at:
david.nakamoto@verizon.net.

or
(626) 905-2704

Just in case Griffith needs to make a list of LAAS attending this event with equipment.

Please join the LAAS Yahoo group; the instructions on pages 11 through 13. It is the most efficient way for last minute instructions to get to all interested members in a timely manner.

David Nakamoto

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