

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC MEETING: Friday, November 21, 2008

7 pm, Cochise College, Sierra Vista, Rm. 305A/B

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & NEW Exciting Door Prizes!

Speaker: Dr. Matthew Kenworthy Topic: Extrasolar Planets

STAR PARTY CORNER

Keith Mullen, Star Party Coordinator (520) 366-0049 email: repogazer@msn.com

Participation is the Lifblood of the Club!

October was as usual the best weathered month of the year astronomically speaking; with summer stretching right through to the 1st of November. On Saturday the 25th we gathered at Dave and Cheryl Healy's for the annual HAC picnic and member star party. The food was great as was the conversation, but there were a lot of faces missing this year. I know we had several members out of town on trips to various corners of the country and Hawaii, maybe that explains it. Dave and Cheryl had the place looking sharp as ever, were those new lights in the trees behind the food table?, they did lend a soft touch to the area. Many thanks go out to Dave and Cheryl for hosting yet another great event and to Glen Sanner and Keith Mullen for supplying the optics outside while Dave thrilled visitors to another night of stellar views through Big Blue.

The following Friday we again gathered at JBO for the Public Star Party, being Halloween didn't seem to matter as we had a nice gathering of public attendees. One guest even brought his own scope out in hopes of finding someone to help him use it. Past President Doug Snyder spent over an hour with the guest enlightening him on the nuances of its use. Eric, Calvin and I along with Dave supplied the optics for the evening. We enjoyed a mix of the soon to be gone summer objects and the now rising winter ones. The Veil nebula was by far the hit of the evening with all optics trained on it at one time or another. It looked great in the eyepiece of Dave's 32 inch. So now we venture into the cold clasp of winter observing with those long nights being wrapped like a mummy, Ah, the Southeast Arizona desert!

November Star Party Schedule

Saturday, Nov. 22nd Finds us back at JBO for the monthly Public Star Party. This might be the last

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STARIZONA
ADVENTURES IN ASTRONOMY & NATURE

Official Donor of the Huachuca Astronomy Club Door Prizes!!!

President's Perspective

Wayne Johnson

First of all, let's all thank Dave and Cheryl Healy for a wonderful annual members star party last month at Junk Bond Observatory! The weather couldn't have been better, the food was plentiful, and we had a good number of members there to enjoy the festivities. I was involved with conversation early in the star party so I didn't get to see some of the show objects that are usually viewed during such events, but Dave was kind enough to round me up near the end of the night and somewhat bemusedly offered to find a few galaxy groups for me with his amazing 32-inch telescope. We looked at several well populated galaxy clusters in Andromeda and Pisces that I had observed earlier in the week with my 13-inch scope. It was interesting to see what aperture can do. Through Dave's instrument I was seeing all sorts of galaxies in the clusters which I could not even imagine in mine. All in all, I observed nearly 100 very faint fuzzies at the JBO star party; my type of observing night!

Well, the elections are finally here. No, I'm not talking about the national elections, which should be history by the time this article appears in the newsletter, but our very own HAC elections. So far there is only one contested office, that of president. Hopefully, there will be a couple more contested offices come meeting time. It's no fun for me being the only one on the chopping block! By the way, thanks for voting for me in the past and I hope to continue at least one more term because I am proud of the accomplishments made during my two years in office. We now have a Board which participates in making club decisions and the various club responsibilities are now spread among many HAC members rather than residing with a single in-

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SKY CALENDAR EXCERPT

courtesy of Doug Snyder,
"Palominas Observatory"

November 08

- 05 We ☽ First Quarter Moon 2103 hrs
- 11 Tu N. Taurids Meteors Pk 2100hrs
- 12 We ☉ Full Moon 2317 hrs
- 17 Mo Leonid Meteors Pk 0300hrs
Not Favorable Due to Moon
- 19 We ☾ Third Quarter Moon 1431hrs
- 21 Fr Alpha Monocerotid Meteors;
Pk. At 0225hrs; fair shower
- HAC Meeting 1900hrs.**
- 22 Sa **HAC Public Star Party**
- 23 Th ● **New Moon 0112 hrs.**
- 29 Sa **HAC Member Star Party**
- 30 Su Venus/Jupiter Close in SW (2°)

Club Resources

The Club has iron on HAC Patches available for \$2.00 ea. Contact Bob Kepple at 366-0490/ astro-cards@aol.com or Jeanne Herbert at 366-5690.

Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 <http://hacastronomy.com> email: mrgalaxy@juno.com

Yearly Membership: Individual: \$25; Family: \$35; Military: \$20; Student:\$10 (with restrictions)

President: Wayne Johnson, mrgalaxy@juno.com ; **Vice President:** Keith Mullen, 520.366.0049/ repogazer@msn.com

Treasurer: Bob Kepple: 366-0490/ astrocards@aol.com; **Secretary:** Jeanne Herbert, 366-5690

Star Party Coordinator: Keith Mullen, repogazer@msn.com;

Outreach Events Coordinator: Rich Swanson, 803-7298 or telegeek-64@cox.net

Loaner Scopes: Gary Myers 432-4433; Newsletter Editor: Teresa Mullen, edugazer1@yahoo.com / 366-0049

This issue of Nightfall can also be found on-line at hacastronomy.com. Click 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. *To join the HAC-LIST, send an email to haclist-subscribe@yahoogroups.com.

About the Speaker...

Doctor Matthew Kenworthy grew up in the suburbs of London and received his doctorate from Cambridge University in 1999 before moving out to Arizona. He now works at Steward Observatory, looking for extra-solar planets around nearby stars using different optical tricks to find that distinct spot of light.

About the Talk...

"Here in Arizona we have one of the largest telescopes in America on Mount Hopkins, the 6.5 meter MMT optical telescope. We also have a unique optical system that takes the effects of seeing out of our images, allowing us to look with great detail around nearby stars.

Many extrasolar planets have been indirectly detected by their effect on their parent star, either by causing the star to 'wobble' or by crossing the disk of the star and blocking out some of the light as it transits. I'll talk about our hunt at Steward Observatory to take a picture of the planet itself - our ongoing search is looking around twenty of the closest stars in our Galactic neighborhood, and why we think we'll be the first to do so."

Travels on the Celestial Sphere

Glen Sanner and Bob Kepple

October 2008

This month we want to show you some special objects that are best viewed when they are high in the evening sky. We will discuss a couple of galaxy groups in Pegasus and a member of our local group of galaxies. As you all know Pegasus is the Winged Horse who arose from the sea foam when Medusa's blood touched it after her head had been severed by Perseus. The great square of Pegasus is easily found near the zenith and it marks the front quarters of the horse that appears upside down as we see it. Near the Lacerta-Pegasus border we find our first seven objects.

NGC 7331 RA 22h 37m 04.9s Dec +34° 25'
Type SA(s)b I-II Magnitude 9.5 Surface Brightness 13.3

This galaxy is found near the front hooves of the Winged Horse and is the brightest in Pegasus. It is large (10' x 3') and is elongated N-S. It has a very bright core with a stellar nucleus and if enough aperture is used, faint dust lanes may be seen as well. There are many stars sprinkled throughout its halo. It is accompanied by six fairly faint companions, four on its eastern side and two on its western side. The four companions to the east are:

NGC 7335 RA 22h 37m 19.5s Dec +34° 27'
Type SA(rs)O+ Magnitude 13.4 Surface Brightness 13.0

This is the brightest of the four eastern companions and is 3.5' NE of the core of 7331. It is obvious without averted vision and is oval shaped.

NGC 7336 RA 22h 26m 22s Dec +34° 29'
Magnitude 14.5 Surface Brightness 13.1

This is a small circular spot using averted vision 2' NNe of 7331.

NGC 7337 RA 22h 37m 26.8s Dec +34° 22'
Magnitude 14.4 Surface Brightness 14.0

This is a faint circular spot 5'SE of 7331 appearing to be a double with a faint star 10" to its SE.

NGC 7340 RA 22h 37m 44.4s Dec +34° 24' Type E? Magnitude 13.7 Surface Brightness 13.0

This galaxy appears as a circular spot of light 8' E of 7331. It is not particularly difficult to see due

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dividual. Attendance at club meetings and star parties has been the best it has ever been and we've been able to get quality speakers and host interesting star gazing events.

I'm looking forward to hosting my first star party at my Mr. Galaxy Observatory (MGO) here in beautiful, downtown Mescal off I10's exit 297. Directions are given elsewhere in the newsletter and should be up on the HAC website. My phone number is 520-586-2244 and my email is mrgalaxy@juno.com, if you have any questions or concerns about the event. The only thing that would cancel the event is snow, otherwise the star party is a "GO", no matter what. It's a long shot, but I am hoping that a good number of members will be able to attend the event, though it will be on Thanksgiving weekend. If you would like to share Thanksgiving leftovers (which my wife does not - she considers the week after T-day a non-cooking week, and uses every last morsel from the meal for our succeeding dinners), please bring them along. The observatory will not be complete, despite my concerted efforts, so I'm going to consider this a pre-first light event. I will probably only have my 13-inch available for use. Members are encouraged to bring along their telescopes and imagers so that those who get cold easily can enjoy viewing from my spacious, though incomplete, warming/control room. There should be enough room around the observatory for whoever wants to bring their own scopes along, too. I hope you can attend!

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to its surface brightness.

The two companions to the west of 7331 are:

NGC 7327 RA 22h 36m 34s Dec +34° 30'
 Magnitude 15.3

This galaxy appears as a circular spot 8' NW of 7331. This object can be mistaken for a fuzzy star. A star may be superimposed in front of it.

MCG +06-49-044 RA 22h 36m 22.9s Dec +34° 33'
 Type Sb Magnitude 15.4 Surface Brightness 13.7

This galaxy appears as a small oval patch of light using averted vision 11' NW of 7331.

NGC 7331 group Copyright NOAO/AURA/NSF

Located 28' SW of NGC 7331 we find another galaxy group, Stephen's Quintet. This is a 4' diameter group of five galaxies. They range in magnitude from 12.6 to 13.6. They are close together but you should be able to discern individuals in the group. We will list their NGC numbers, RA, Dec, and magnitudes individually but we will not try to describe them, that will be up to you. If you can find NGC 7331, these galaxies are nearby. Large aperture is not needed but obviously it helps. With a nice wide field eyepiece Bob and I were easily able to see both the NGC 7331 group and Stephen's Quintet with very modest aperture. The members of Stephen's Quintet are:

NGC 7317	RA 22h 35m 52.1s	Dec +33° 56'	Magnitude 13.6
NGC 7318A	RA 22h 35m 56.7s	Dec +33° 58'	Magnitude 13.4
NGC 7318B	RA 22h 35m 58.7s	Dec +33° 58'	Magnitude 13.4
NGC 7319	RA 22h 36m 04.1s	Dec +33° 58'	Magnitude 13.1
NGC 7320	RA 22h 36m 03.4s	Dec +33° 57'	Magnitude 12.6

Stephen's Quintet Copyright NOAO/AURA/NSF

In the constellation Triangulum, the Triangle, we find our last object, Messier 33. This galaxy is

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known as the Pinwheel Galaxy and is a member of our Local Galaxy Group. It is 2.4 million light years distant and was discovered in August of 1764 by Messier who described it as a "whitish light of almost even brightness."

M33 (NGC 598) RA 01h 33m 51.3s Dec +30° 40'
 Type SA(s)cd II-III Magnitude 5.7 Surface Brightness 14.2

This galaxy is a loosely-wound spiral galaxy with a great deal of detail when viewed with enough aperture. In smaller scopes it will appear uneven in brightness with mottling toward its center. With averted vision hints of spiral structure appear. Larger scopes reveal a reverse-S pattern spiral with a much brighter core. With increased aperture over a dozen H-II regions appear with direct vision and the views of this galaxy become spectacular. Globular clusters pop into view with shimmering texture, truly a must see in a large aperture telescope.

M33 Copyright NOAO/AURA/NSF

3rd Annual HAC Christmas Party

Saturday, December 13 , 2008

5:00 PM - ??????

At the home of

Keith & Teresa Mullen



Bring a favorite dish to share!

Gift Exchange ~\$20 limit

Please Rsvp: 366-0049 with your attendance and potluck dish you plan to bring.

chance to get out this fall without needing the electric socks and earmuffs. Most of winter objects will be viewable with Orion making its debut in the early hours. If you've never seen M-42 in the 32", then that's reason enough to come out and take a look. And while you're here don't forget to set up the telescope you're going to bring with you.

Saturday, Nov. 27th We are all being invited to join current HAC President Wayne Johnson usher in a new era in our club's growing list of personal observatories. We have learned Wayne has decided to name the observatory after his alias, Mr. Galaxy Observatory (MGO) kind of sounds like a beer to me, but knowing Wayne, it will be appointed with only the finest in optical equipment. So let's make an effort to get out there and welcome this new observatory onto the list of HAC's growing number of observatories, already the world's leader of clubs under 100 members with nearly 25% of its members having their own observatory. Wayne has asked that we bring along some munchies or maybe even some thanksgiving leftovers and make an effort to be early to get set up before sundown. There will be a map to MGO on the HAC web page by press time. Event starts at 5:00 p.m. Be There!

Newsletter article for Nov. 2008 Nightfall

Submitted by Doug Snyder:

- HAC Presidency for 2009: The Members Choice -

As founder and longtime editor of the Huachuca Astronomy Club newsletter NIGHTFALL as well as a devoted club member, I have chosen to once again run for the office of HAC presidency. I have chosen this course of action with the hope that we, the entire membership, and I, if elected, can once again look to a president that delivers managed and productive leadership to all current and future members, as well as to the communities in which we live, work and pursue our individual endeavors in astronomy. I hope that you too feel that it is time to restore our organization with a committed president that is devoted to all members equally and to our stated organization mission 24 hours a day, 7 days a week, and each and every day of the year.

To hold the office of President of the Huachuca Astronomy Club of Southeastern Arizona is a tremendous responsibility, honor, challenge and fulfilling position such that I believe it requires a person to inspire both veteran members and astronomers as well as very beginners to excel as best they can and with the desire to in this most unceasingly educational, delightful and oft-times thrilling avocation.

It is time to re-institute the many strengths that had at one time made our organization a household name throughout Cochise County and certainly in other regions of the United States; strengths such as unprecedented new membership support and encouragement, original and thought provoking outreach projects and activities geared toward young and old alike and which distinguished our club and fostered member rewards from national organizations. It is also time to tap into the many talents, attributes and creative endeavors of our sustaining members and ensure that we explore the frontiers that lie ahead for us in the year 2009 and beyond.

One such frontier approaching our star lit horizons is the celebration of IYA2009, the International Year of Astronomy 2009. This promises to be a phenomenal astronomical milestone of historical proportions and one that the officers and members of the Huachuca Astronomy Club cannot afford to allow to pass by with out participation.

I strongly encourage you to attend this important membership meeting on November 21st and we look forward to seeing you at Cochise College. I sincerely thank you in advance for casting a YES vote for Doug Snyder as President of the Huachuca Astronomy Club for 2009. It would indeed be an honor to once again serve this exemplary membership of astronomy enthusiasts.

NASA Space Place

The Chemical Weather Report

“Sunny tomorrow with highs in the mid-70s. There’s going to be some carbon monoxide blowing in from forest fires, and all that sunshine is predicted to bring a surge in ground-level ozone by afternoon. Old and young people and anyone with lung conditions are advised to stay indoors between 3 and 5 p.m.”

Whoever heard of a weather report like that?

Get used to it. Weather reports of the future are going to tell you a lot more about the atmosphere than just how warm and rainy it is. In the same way that satellite observations of Earth revolutionized basic weather forecasting in the 1970s and 80s, satellite tracking of air pollution is about to revolutionize the forecasting of air quality. Such forecasts could help people plan around high levels of ground-level ozone—a dangerous lung irritant—just as they now plan around bad storms.

“The phrase that people have used is chemical weather forecasting,” says Kevin Bowman of NASA’s Jet Propulsion Laboratory. Bowman is a senior member of the technical staff for the Tropospheric Emission Spectrometer, one of four scientific sensors on NASA’s Aura satellite.

Aura and other NASA satellites track pollution in the same way that astronomers know the chemical composition of stars and distant planetary atmospheres: using spectrometry. By breaking the light from a planet or star into its spectrum of colors, scientists can read off the atmosphere’s gases by looking at the “fingerprint” of wavelengths absorbed or emitted by those chemicals. From Earth orbit, pollution-watching satellites use this trick to measure trace gases such as carbon monoxide, nitrogen oxide, and ozone.

However, as Bowman explains, “Polar sun-synchronous satellites such as Aura are limited at best to two overpasses per day.” A recent report by the National Research Council recommends putting a pollution-watching satellite into geosynchronous orbit—a special very high-altitude orbit above the equator in which satellites make only one orbit per day, thus seeming to hover over the same spot on the equator below. There, this new satellite, called GEOCAPE (Geostationary Coastal and Air Pollution Events), would give scientists a continuous eye in the sky, allowing them to predict daily pollution levels just as meteorologists predict storms.

“NASA is beginning to investigate what it would take to build an instrument like this,” Bowman says. Such a chemical weather satellite could be in orbit as soon as 2013, according to the NRC report. Weather forecasts might never be the same.

Learn more about the Tropospheric Emission Spectrometer at tes.jpl.nasa.gov.

Kids can learn some elementary smog chemistry while making “Gummy Greenhouse Gases” out of gumdrops at spaceplace.nasa.gov/en/kids/tes/gumdrops.

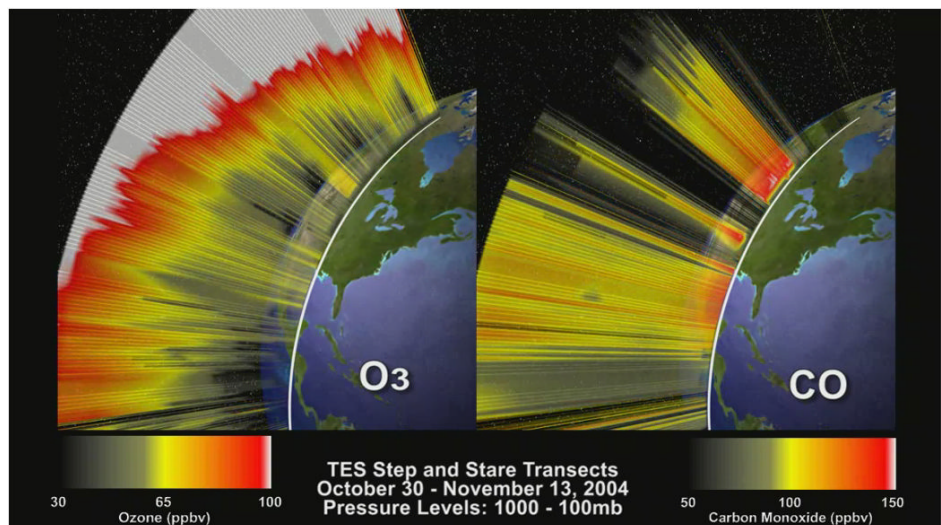
This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Caption:

Example of visualization of data from the Tropospheric Emission Spectrometer. These frames are from an animation that steps through transects of the atmosphere profiling vertical ozone and carbon monoxide concentrations, combining all tracks of the Aura satellite during a given two week period.

Note to editors:

This image may be downloaded from <http://spaceplace.nasa.gov/>





P. O. Box 922
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Visit us on the web at hacastronomy.com

Newsletter Update...



As of January 2009 the Newsletter is moving into the 21st century! The club newsletter is posted and available to you on our website at hacastronomy.com and in living color for your reading pleasure. Should you desire a hard copy it can easily be downloaded. Should you desire continued mailings of the newsletter contact the editor by email at edugazer1@yahoo.com or by phone at (520) 366-0049. The funds saved will be designated to club outreach and scholarships.

Huachuca Astronomy Club of Southeastern Arizona Inc.

Nominations Committee Slate of Candidates

Annual Club Elections, Nov. 21st 2008

The list of nominees is as follows:

Officers:	Wayne Johnson	President
	Doug Snyder	President
	Keith Mullen	Vice President
	Bob Gent	Secretary
	Bob Kepple	Treasurer
Directors:	Del Gordon	Director (Two year term)
	Glen Minuth	Director (Two year term)
	Teresa Mullen	Currently in mid term
	Rich Swanson	Currently in mid term



Any office or Director seat may be contested by a nomination from the floor at the general meeting on Nov. 21st, 2008. The two Director seats in mid term are not able to be challenged.

Keith Mullen, V.P. and Nominations Chair



"The Farthest Point of Vision"

Another Proud Sponsor of the Huachuca Astronomy Club