



Astronomy Club of Tulsa

OBSERVER

October 2006

<http://www.AstroTulsa.com>

ACT, Inc. has been meeting continuously since 1937 and was incorporated in 1986. It is a nonprofit, tax deductible organization dedicated to promoting, to the public, the art of viewing and the scientific aspect of astronomy.



What

The Astronomy Club of Tulsa Star Party

When

6 October 2006, 7:30 PM

Where

Room M1 inside Keplinger Hall, the Science & Engineering Building at TU. Enter the parking lot on the East Side of Keplinger Hall from Harvard and 5th Street. This will take you directly toward the staircase to enter the building. Room M1 is the first room on the left.



President's Message

Tim Davis

Please join us at our general meeting at TU on Friday, October 6th, at 7:30 PM. Room M1 at Keplinger Hall, 5th and Harvard. We will be holding our annual club elections at this meeting. I encourage all club members to attend this meeting and participate in the process of keeping our club running.

October has arrived and with it comes some cooler temperatures and the fall constellations, like Andromeda, Pegasus and Pisces. Now is the time to bring out the warmer clothes for observing as the nights are starting to get cooler. But the change of seasons also brings around some new and wonderful objects to observe so don't let the cooler nights keep you from getting out.

At our October general meeting, we will be holding our annual club elections. If you are interested in running for an office, or a board member position, please come to the meeting and let us know what you would be interested in, so that we can add your name to the ballot. If you can not make the meeting, then please let any of the club officers know by way of email. All of the current officers and board members will be seeking reelection with the following exceptions; Vice-President Jerry Mullennix will be seeking a board member position, and board member Tamara Green will be running for Vice-President. Voting will be by paper ballot. Also note that due to the ongoing construction on the TU campus, we have lost our usual parking lots on the east side of Keplinger Hall. There are parking lots on the north and south sides of the building that we will now have to use.

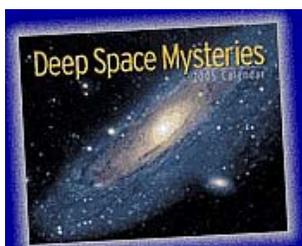
Our September star party was a very enjoyable night. Around 30 people attended, with many new people and students from the college astronomy classes. It was a beautiful, warm, clear night and everyone enjoyed the views

through our new telescope in the observatory. Next star party is on Friday, Oct 20.

The next week, a number of our club members headed out to the annual Okie-Tex star party in the Oklahoma panhandle. This is one of the premier star parties in the nation and is put on each year by the Oklahoma City Astronomy Club. Around 20 people from our club attended this year. Some were there all week, some only for a few days. This year will be remembered as "Hurricane Okie-Tex". On Thursday, a very powerful storm rolled through the plains, bringing with it rain and wind, and I do mean wind! There

were wind gusts of 75-80 MPH at times. The satellite images of it looked very much like a hurricane, only it was in the middle of the country. We had tents, tarps and canopies blowing all over the fields. The winds finally died down late Thursday afternoon, and we were even able to do some observing that night. The best nights were at the beginning of the week, Sunday, Monday and Tuesday, and the last night, Saturday. If you have never been to this event, I hope you will make plans to attend next year. The site has some of the darkest skies around, and is well worth the trip out there. Next years dates are Oct 6-13.

Put a bundle of Starlight under your Christmas tree



2007 Deep Space Mysteries Wall Calendars from Astronomy magazine are here. Twelve stunning Astronomy photos plus all the major astronomy events for the year. As club members you can get yours for \$ 8.00 each a 38% discount over the cover price. I have 50 on hand and 18 of them are already spoken for so send in your requests ASAP Contact John Land to reserve yours



2007 Royal Canadian Observers Handbooks - will be available this year at \$18.00 each provided we get orders for 10 or more orders. This excellent observing guide has detailed calendars of observing events throughout the year. Due to the high cost of the handbook these must be PREPAID no later than the November meeting to have them arrive on time.



Make the most of your **Astronomical League** membership! To find out more about what the Astronomical League offers you, why not log on to www.astroleague.org today?

Working on an observing project or observing certificate. What to image your favorite object? "What's Up, Doc" can help you plan your observing experience. It features monthly lists of observable objects for each certificate plus an extensive observing spreadsheet to customize your own observing. <http://www.astronomyclub.org/wud.htm>

DAVIDS ASTRO CORNER

By David Stine

Fall Messier Marathon - Most of you have heard about the Spring Messier Marathon that is usually held the last of March or the first of April each year. At this time you can find and observe most of the Messier deep sky objects from dusk to dawn in one night. The marathon has become a tradition and has been held at the TUVA Observatory site near Checotah, Ok. It has always been a great night for all that attend. Competition between observers is always high with the person finding the most objects being awarded the Messier Marathon award. What people probably didn't know was that March is not the only time that all or nearly all of the objects can be seen in one night. October is the other month that this is possible. So for the first time, TUVA and the Astronomy Club of Tulsa will hold a Fall Messier Marathon on October 21 at the TUVA site. TUVA has really dark skies and its only a 35-45 minute drive from Tulsa.

Tom McDonough has put together a really nice Fall Messier Marathon guide/log that has the objects divided in hour sections and in sequence and you can mark them off and add any notes to each object you observe. Along with the log there are 18 charts showing exactly where to find the objects. You can print this guide off by going to <http://astrotulsa.com/pub/FallMessierMarathon2006.pdf>. I will also have these guides at the marathon for anyone that needs them. They are excellent charts. Ron and Maura Wood are terrific hosts and you will not be disappointed even if the weather doesn't cooperate. Tom will have a directional map on how to get to the site for anyone that has never been there later on our website at <http://astrotulsa.com/Resources/Maps/tuvamap.asp>.

The marathon comes with a bonus, actually two. The Orionid Meteor Shower also peaks on the night of the 21st, so you should be able to see several meteors coming out of the Orion Constellation while hunting for Messier Objects Bonus two comes from C/2006 M4 Swan, a comet that should be at naked eye visibility during this time in the evening sky. This comet is presently at 7th Mg. and is brightening daily and could become as bright as 4th or 5th Mg. by the middle of Oct. On the 21st of October the comet is high in the WNW just above the kite figure of BOOTES and doesn't set until 11p.m. More on the comet below, So we have Messier objects, meteors and a bright comet plus whatever may happen that night all in one night of observing. This is one night you do not want

to miss. Plan to attend the 1st Fall Messier Marathon, October 21st at the TUVA Observatory.

Comet C/2006 M4 (Swan) - This comet is now a morning object but will be moving into the evening sky in a few weeks. It has been reported at Mg. 7, which is about two magnitudes brighter than the Ephemeris projected at this time. If it continues to brighten at this same scale it could become as bright as 4th or 5th Mg. by October 17th. At this time it will be on the northern edge of the BOOTES Kite shape and not set until after 10p.m.. A great observing opportunity for you and a chance to show the comet to your neighbors. There is a chart through September at http://www.skyhound.com/sh/comets/2006_M4.gif. This chart will change the 1st day of October showing it through October. It is an easy to follow chart and should help you find the comet. If it becomes as bright as expected you probably will not need a chart. Keep your fingers crossed. The orbital elements of the comet can be found at <http://cfawww.harvard.edu/iaa/Ephemerides/Comets/2006M4.html> From there you can make your own charts and also get daily coordinates to follow the comet each night.

That's it from my corner this month, be sure and make plans to attend the Fall Messier Marathon Oct. 21. Keep your eyes to the sky.

ASTRO CORNER UPDATE: COMET C/2006 M4 SWAN REPORTED NAKED EYE

Several observers have reported that Comet M4 Swan is now a naked eye comet. Martin McKenna from Northern Ireland reported that the comet is looking great with a compact white moderately condensed coma with stellar central condensation. It sported a lovely blue ghostly ion tail 30' long which extended between two bright field stars with the coma showing obvious eastward motion in a short time period. The comet was easy in 10x50 binoculars with the same length of tail present that I saw with my 8.5" reflector. Once I knew exactly where to look I could see the comet with my naked eyes without much difficulty at all. This comet is turning out to be a splendid object and well worth watching. Jakub Cerny also spotted the comet with his naked eyes on the 24th Sept. morning. Jakub reports that the comet seems to be brightening faster than expected.

Lands Tidbits

By John Land

Welcome Recent New Members: Pilar Thornbrugh

DON'T LET YOUR MEMBERSHIP or Subscriptions LAPSE !! Check your MAILING LABEL for membership expiration date. Those receiving Email should get a reminder when your membership is up for renewal or you may contact John Land. You may also renew magazine subscriptions through the club for substantial discounts.

GUEST SIGN IN SECTION on the Website is already bringing the club new contacts for potential new members.

Changing EMAIL - When you change your email or mailing address be sure to send me the new information so I can update the club records. You can use the Join feature on the club web page to make changes.

ON LINE Club Memberships and Renewals:

Adults - \$ 35 per year includes Astronomical League Membership

Students \$ 15 without League membership.

Students \$ 20 with League membership.

* Student shall be defined as a person 25 or younger actively taking courses at a college or trade school or persons still in High school or below.

* Adult Students over 25 may join at the student rate for one year if enrolled in an Astronomy course in an area college.

We now have an automated on line registration form

on the website for new AND renewal memberships plus magazine subscriptions. You simply type in your information and hit send to submit the information. <http://www.astrotulsa.com/Club/join.asp> You can then print a copy of the form and mail in your check.

Astronomy Club of Tulsa
25209 E 62nd St
Broken Arrow, OK 74014

Magazine Subscriptions: If your magazines are coming up for renewal, try to save the mailing label or renewal form you get in the mail. Do NOT mail renewals back to the magazine! To get the club discount you must go through the club group rate.

Astronomy is \$ 34 for 1 year or \$ 60 for 2 years.
www.astronomy.com

Sky & Telescope is \$33 / yr
www.skyandtelescope.com Sky and Telescope also offers a 10% discount on their products.

NIGHT SKY is \$18 / yr A exciting new bi-monthly magazine for beginning or casual astronomers. <http://nightskymag.com/>

Address Corrections- Email changes - Questions:

You may forward questions to the club call our message line at **918-688-MARS (6277)** Or go to the club website and Fill out an online form or just click on John Land and send an email. Please leave a clear subject line and message with your name, phone number, your question - along with address or email

<http://AstroTulsa.com>

NASA NIGHTSKY NETWORK

By: Jerry Mullennix

Mark your calendars to see another rare event - The transit of the planet Mercury November 8, 2006. Here in Tulsa we will be able to see all but the very end of the show. If you are disappointed and want to see the entire show then you must go West (the west side of New Mexico should be far enough) to see the entire transit.

Planet transits are rare events and only Mercury and Venus display this show from Earth. If you lived on Mars you could add the transit of the planet Earth to your list. If you miss this one you won't be able to catch another transit of Mercury until May 9, 2016, the next Venus transit is June 6, 2012 and then Venus does not transit again until Dec 11, 2117.

For those new to astronomy a transit is the passage of a planet across the face of the Sun. While the planet itself is lost in the overwhelming light of the sun you can depict its location by the silhouette moving across the sun's surface. The principal events occurring during a transit are characterized by contacts, analogous to the contacts of an annular solar eclipse. The transit begins with contact I which is the instant when the planet's disk is externally tangent with the Sun. Shortly after contact I, the planet can be seen as a small notch along the solar limb. The entire disk of the planet is first seen at contact II when the planet is internally tangent with the Sun. (Tangent - In plane geometry, a straight line is tangent to a curve, at some point, if both line and curve pass through the point with the same direction; such a line is the best straight-line approximation to the curve at that point.) During the next several hours, the silhouetted planet slowly traverses the brilliant solar disk. At contact III, the planet reaches the opposite limb and once again is internally tangent with the Sun. Finally, the transit ends at contact IV when the planet's limb is externally tangent to the Sun. Contacts I and II define the phase called ingress while contact III and IV are known as egress. Position angles for Mercury at each contact are measured counterclockwise from the north point on the Sun's disk.

Now keep in mind the planet Mercury is only 1/194 of the Sun's apparent diameter. However, any telescope bigger than 60mm of aperture should have no problem seeing the transit. SAFETY SAFETY SAFETY are the key words here. Never observe the Sun without

proper filters attached to your telescope, doing so can result in instant blindness and there are no second chances. If you are not sure if you have the right equipment please contact someone on the board or someone familiar with solar observing to assure your equipment meets the requirements. You do not need to run out and purchase an expensive Coronado Scope to view the transit. A good quality white light filter will probably produce the best image. These filters range in price depending on your scope size at anywhere between \$50 and \$200. Make sure you get one that goes over the end of the scope to protect all of your optics. Filtered eyepieces protect your eyes but they leave your optics exposed to the Sun and your telescope will generate a lot of heat if not melt some of the scopes components.

Here are the calculations for Mounds Observatory. Latitude 35.833 Longitude -96.151. We will see Contact I at UT 19:12 (1:12 pm CST), Contact II at UT 19:14 (1:14 pm CST) Max at UT 21:41 (4:41 pm CST) Max is when the transit is closest to the Sun's Center. Contacts III and IV will not be visible from the observatory but they will happen at 6:08 and 6:10 pm. We will miss about 30 minutes of the show. The sun sets at 6:18 at Mounds but if you look at the chart below you can see that the transit will have just slid below the horizon.

I plan to be at the observatory for this event and as it is a Wednesday you have time to schedule a day off or plan your sick excuses well in advance. Perhaps with some gentle persuading we could make it an official club event with our President Tim Davis supplying the steaks. Nothing like transits and presidential steaks to make a great day in the sun.

Hope to see you there.

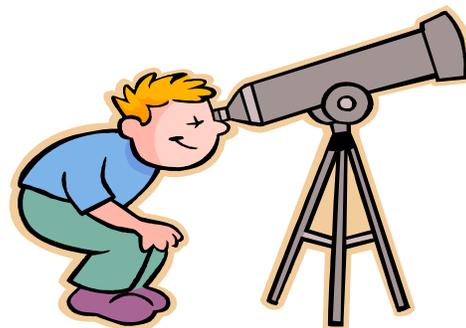


Figure 1 Transit of Mercury: 2006 Nov 08

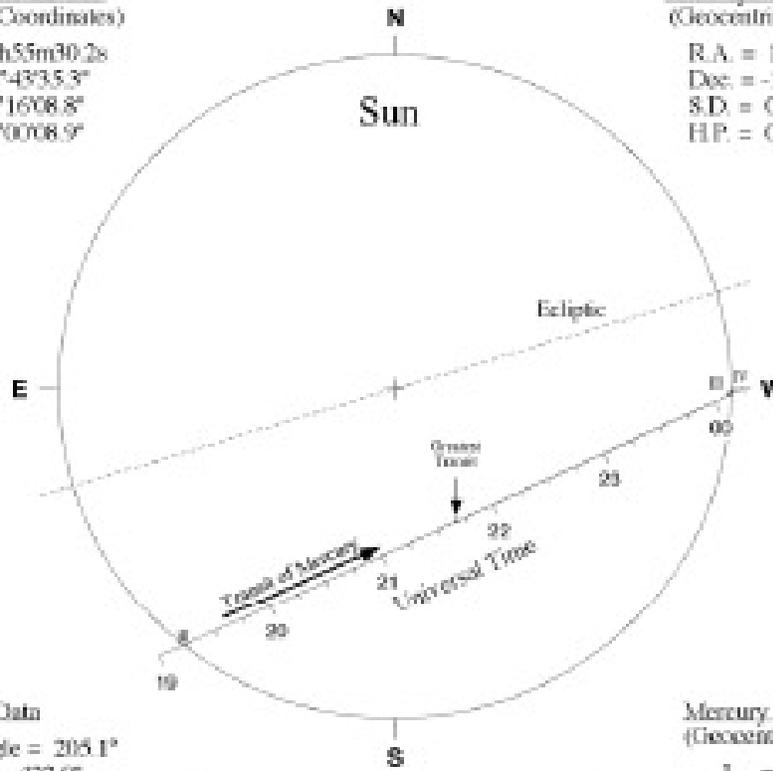
Greatest Transit = 21:41:04.3 UT J.D. = 2454048.403521

Sun at Greatest Transit
(Geocentric Coordinates)

R.A. = 14h55m30.2s
Dec. = -16°49'35.3"
S.D. = 00°16'08.8"
H.P. = 00°00'08.9"

Mercury at Greatest Transit
(Geocentric Coordinates)

R.A. = 14h55m17.5s
Dec. = -16°49'55.7"
S.D. = 00°00'05.0"
H.P. = 00°00'13.0"



Geocentric Data

Position Angle = 205.1°
Separation = 422.9"
Duration = 04h58m

Ephemeris Data

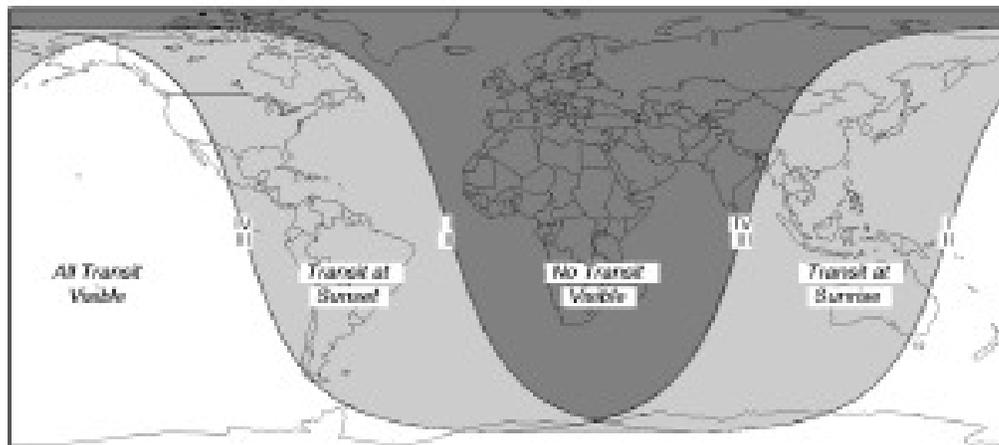
Eph = VSOP87
 $\Delta T = 65.0$ s

Mercury Transit Contacts
(Geocentric Coordinates)

I = 19:12:04 UT
II = 19:13:57 UT
Greatest = 21:41:04 UT
III = 00:08:16 UT
IV = 00:10:08 UT

F. Espenak, NASA/GSFC - 2005 Apr

<http://sunearth.gsfc.nasa.gov/eclipses/transit/transit.html>



Astronomy Club of Tulsa

Membership Application/Renewal Form

PLEASE PRINT

Name: _____ Phone: (918) _____ - _____

Address: _____

City / State / Zip _____ / _____ OK _____ / _____

E-mail address - print clearly _____

Check Lines below : For faster economical delivery you are notified by email when the Club newsletter is posted on the web. Email saves the club mailing expenses. Of course if you do not have email we can mail you a copy of the monthly newsletter.

New Membership Renewal Membership

Adult Membership (\$35) includes Astronomical League membership.

See <http://astroleague.org/> for benefits of being a League Member.

Student Member (\$20)* includes Astronomical League membership.

Student Member only(\$15)* - without League membership.

* Student - Persons 25 or younger actively taking courses at college, trade school, high school, or below.

* Adult Student - Persons over 25 may join at the student rate for one year if enrolled in an astronomy course at an area college.

Check Lines below for YES

I would prefer to receive E-mail notification when club newsletter is posted to the web.

Notice of club events and newsletters are usually sent by email.

This helps assure you will be informed of late breaking news.

I choose to receive my newsletter by E-mail ONLY instead of postal mail.

Check here if you also require a postal copy of the monthly newsletter.

Note: Using email newsletter saves the club about \$5 per year

Magazine subscriptions: Magazine rates may change. Prices available with membership only.

Sky & Telescope Subscription (\$33) / year _____ Renewal Include Subscription Number. Also includes 10% discount on most Sky & Telescope products.

Astronomy Subscription (\$ 34) / year (\$ 60) / two years _____ Renewal Include Subscription Number.

NightSky for 6 issues for \$18 see www.NightSkymag.com Issues come out bi-Monthly This is an excellent choice for the novice astronomer and youth just starting out in astronomy.

Astronomy Club of Tulsa - 25209 E. 62nd St - Broken Arrow, OK 74014

Or go to the club website and fill out an online form or just click on John Land and send an email.

How did you hear of the Astronomy Club of Tulsa? _____

How long have you been interested or active in astronomy? _____

Do you have a telescope? _____ Type _____

What astronomy club activities would you like to participate in?

Have you been a member of other astronomy clubs? _____

Where / when _____

Astronomy Club of Tulsa membership (\$35/year) includes membership in the Astronomical League and subscription to ACT's "Observer" and AL's "Reflector". "Astronomy" (\$34/year) and "Sky and Telescope" (\$33/year) are also available through the club. For more information contact John Land at 918.357.1759. Permission is hereby granted to reprint from this publication provided credit is given to the original author and the Astronomy Club of Tulsa Observer is identified as the source.

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918.637.1477

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Rod Gallagher
Tamara Green
Dan Lamoreaux
Jim Miller
Denny Mishler
Tony White

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Teresa Kincannon—918.637.1477

RMCC Facility Manager:

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John Land—918.357.1759

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Astronomy Club of Tulsa

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<http://www.AstroTulsa.com>

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