



Astronomy Club of Tulsa

# OBSERVER

January 2005

<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 Meeting

## When

21 January 2004 at 7:30 P.M.

## 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.

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## President's Message

**Craig Davis**

A very Happy New Year to everyone! As the New Year has been welcomed by all it has also been ushered in with a very nice comet, Machholz, along with many more yet to arrive. I think that that alone is quite a present of good luck for all.

Needless to say our weather hasn't been the best here lately for viewing of Machholz but still there have been several opportunities to grab a quick look and enjoy. Saturday night was a good night for observing not only the comet but also several other objects. Unfortunately clouds moved in around eight but that was expected to a certain degree, even so, the few hours before was very rewarding and well worth the time. As a matter of fact we also had a wonderfully bright pass of the ISS along with several other satellites and ISS related supply ships. What made it so good was that it too came so close to the position of the comet and the Pleiades before moving across the terminator and dimming out to nothing. Some club members reported that they could make out the other two ships that were very close to the ISS as it

passed. If only my eyes were that good! But still, it was both exciting and very intriguing to watch the passing of something so close as well as the other, so far away. Check you Sky & Telescope for the path of Machholz in the coming weeks. It will be well worth it to follow it until you can no longer find our distant neighbor.

We now have new tables at the observatory. The older tables have been replaced with new, not warped or beat up ones that hopefully will provide us with several years of good usage. If anyone would like to take any of the old tables they would be quite welcome to them. It would be best to make them available to anyone that can get some good use from them even though they aren't in the best of shape. Again, anyone that would like to take them is fully welcome to do so. Please let me know and I'd be more than happy to meet you out there to get them. You could simply e-mail me at [sirian@cox.net](mailto:sirian@cox.net) or give me a call at 252-1781.

At our upcoming club meeting, Friday, January 21st, our guest speaker is going to be Dr. Mike Strauss of OU. Dr. Strauss received his doctorate from UCLA and has worked closely in Experimental Particle Physics with the OU energy physics research group. This group is involved in experiments using the Tevatron collider at the Fermi National Accelerator Laboratory. He has been with OU since 1995 and teaches introductory physics classes to engineers and life science majors. He will be speaking on "The Origin, Structure and Fate of our Universe". That alone should be very interesting in a full variety of ways. From no doubt the big bang theory to strings and strings and strings. So it is definitely something to look forward to.

In the upcoming months, dryer and warmer ones of course, I'll be putting out a call for volunteers to assist with the building of more concrete observing pads out at the observatory. Anyone that would like to help out with setting the forms and running the concrete will be very welcome. As I said, I'll put out the call later on in the spring. But please keep in mind, any extra pair of hands will really help out.

Clear Skies to all,

Craig D. Davis  
President

## Night Sky Network

By Neta Apple

Happy New Year!

Our club logged five events using the NSN materials by December 31st. The last, a day camp for 23 kids in grades K through 5 at TASMS, was done and logged on December 28th so it was close. This makes us eligible for both the quarterly drawing for educational materials and the JPL Open House drawing, both of which were to be held on January 4th. Each event is one "ticket" in the drawing, with some clubs having in excess of 40 events logged for the quarter! If we are selected we could receive some lunar maps and a small lunar globe for use by club members and for use in outreach. If selected for the JPL drawing we would be able to send one person to the JPL open house, with travel paid by the NSN. Keep your fingers crossed!

We have also now qualified to receive the next kit on galaxies and the all weather banner which will be shipped this month. I hope to have them in hand to share with all of you at our next meeting on January 21st.

We have been asked and have agreed to do a display in the Zarrow branch of the Tulsa Public Library for the month of May. I am told that the case is about 15 feet long, 2 feet wide and I think about 4 feet tall with shelves on the back. It is see through from both sides and has locks. Gerry Andries has generously offered the loan of his lunar globe, and Rick Apple has offered the use of a small telescope to go in the case. I have some paper models of NASA probes and craft. I need other ideas and items about astronomy that can be placed in the case. Items will be on display for the entire month so it would not be wise to loan your favorite star atlas that you use every week! If you have an idea or would like to offer an item to go on display please let me know. We will be able to leave information about ACT at the library counter so that those who are interested can pick up a flyer about us. This is a good opportunity for us to show the city of Tulsa who we are and what we are about.

We have also been contacted about doing a joint event with the Tulsa Rocketry Club in June. It sounds like a great idea and a fun event which will have something that each of us in ACT can do. Look for more on that in upcoming months!

## DAVIDS ASTRO CORNER

By David Stine

### "Comet Machholz At Its Best"

What may be the best comet in several years is now shining high overhead in the evening skies. If you haven't seen it yet, you have not been looking. It was making an excellent pass by the Pleiades between the 6th - 9th with its closest pass coming on Friday night, the 7th. On the 6th I viewed the comet from a dark sky south of Bixby and it was awesome looking. I just looked up at the Pleiades with only my eyes and there was the comet right by the cluster glowing like a dim round nebula. Through binoculars I could see two possibly three short Ion gas tails and a broad fan shaped dust tail. Friday nights star party was basically rained out so it was extended through the weekend to give everyone a chance to view the comets passage by the Pleiades from a dark sky location. We were not disappointed, Saturday night the comet was above the Pleiades and it was like seeing a new object in the sky naked eye. With binoculars the comet showed its two tails, ion and dust. Through KC's dob and our Vice President Tim Davis dob it was outstanding showing a well-defined false nucleus with an enormous bluish-green coma that covered most of the viewing field. We all were able to watch several satellites pass through and near the Pleiades and the comet, then the grand passage of the ISS, Progress and Souyz passed just below the Pleiades. It was a photo moment, the comet, Pleiades and the ISS all in the same camera view. There were several trying for that photo moment, so surely one of us got a decent picture. The comet will be passing by several other deep sky objects in January for a great photo opportunity. You will only need a 35mm camera that can take time exposures and a sturdy tripod. Set your camera to infinity focus, f/ stop to your lowest stop, and open your shutter for several seconds. The stars won't trail that much up to 30 seconds, so take exposures starting with five seconds up to as long as a minute. The longer you keep the shutter open the more detail you will get but you will have more star trails. When I took shots of Hale-Bopp, my best shots were in the 30-45 second range. Remember it will be hard to capture the tail unless you are guiding your camera, however if this comet becomes as bright as predicted you should get some nice photos with a short tail. My favorite film is Fuji 800 for comets. Also when you start your exposure, take something black like a piece of black cardboard and hold over the lens for about 2 seconds and just when you are about to end your exposure hold it in front of the camera. This allows time for the

vibration of the shutter release to settle down and make your picture steady. Most important thing, you need a small cable shutter release cord. This can be purchased at camera stores or even Wal-Mart. Good luck and send me your results.

Comet Machholz will be making several interesting rendezvous' with other deep sky objects in Jan. These may present for a photo moment. Here are the dates:

Jan. 20 Machholz(C/2004 Q2) passes near the Open star cluster by Alph Perseus

Jan. 27-28 Machholz passes near the Double Cluster

Jan. 30-31 Machholz passes by diffused nebula IC 1848, 1805, 1795

In March around the 11th the comet will be about 6 degrees from Polaris and remain in that vicinity for over a week.

A new chart for the comet through January can be found at [http://www.skyhound.com/sh/comets/2004\\_Q2.gif](http://www.skyhound.com/sh/comets/2004_Q2.gif). Also at the skyhound site are other January comets that are within reach of backyard telescopes this month.

January weather is so unpredictable, and the moon will start coming back into the picture, so every night it is clear you better take the opportunity to observe this comet before it gets away and fades.

It was an amazing year for comets in 2004. A record 5 naked eye comets were seen including C/2001 Q4(Neat), C/2002 T7 (Linear) C/2004 F4 (Bradfield)my favorite, C/2003 K4 (Linear) and C/2004 Q2 (Machholz). The only one I didn't see naked eye was K4. How about You?

The Geminid Meteor Shower was one of the best in several years. The unique thing about the shower was that it had several peaks and for three solid nights in a row you could see 30-60 meteors an hour. Several of us observed from the club observatory on the night of Dec. 12th and the morning of the 13th . I personally saw 162 Geminids and there were over 500 seen by the group in total. Steve Chapman, Teresa Kin-cannon, Gerry Andres, Ed Kirkman, Denny Mishler stuck it out with me until about 2:30a.m. Monday morning and we were not disappointed. At times we were seeing 2 and 3 meteors at a time and we saw several -5Mg. green fireballs. There were many more people, like Jerry

Mullinex, the Brenner's, Judy and her husband, and some non-members that observed early but had to leave before the action really started after midnight. A total of 9,313 Geminids were reported across world and a complete analysis of the shower is still being calculated. It was cold that morning as all of us were bundled up, but the next night was even colder. I didn't make it out Monday night but from reports the event was just as good with even brighter meteors. It's very unusual to have 3 nights or mornings of meteors in this abundance for any shower. Several members were at the observatory on Saturday night also and saw many Geminids that night also. (See Jerry Mullinex article). We also discovered a new bright object on the southern horizon below and west of Sirius. Actually it wasn't new, but kind of rare for the northern hemisphere. For a while it was a guessing game. It was so close to the horizon that at first we thought it was an airplane, then Gerry thought it was a tower light, but eventually we all figured it out. Can you? That night was a great night for viewing Comet Machholz also. The tail wasn't visible but the huge coma and star like false nucleus was amazing.

Where will you be on April 13, 2029? Wherever you are you may see a spectacular event just before you turn to dust. Kind of a scary thought isn't it. Try imagining looking up at the sky and watching this enormous 400-meter asteroid brightening up the sky as it slowly descends to a collision with earth. What a sight, but if you are in the impact location, it will be your last! This is a scenario that could happen and the recent odds for this to occur have jumped from 1 in 300 to 1 in 60. This has pushed the recently rediscovered asteroid 2004 MN4 to the highest level ever given an object to 4 on the 10 point Torino scale. The Torino scale is a scale from 0-10 for Near Earth Asteroids possibility of impacting the Earth. Astronomers around the Earth are now tracking this asteroid and will continue to update our risk of impact. Now don't go telling your friends that the Earth is coming to an end in 2029. 60-1 odds are still high for an impact not to occur and there is better than a 98% chance that new data in the coming months will rule out any possibility of impact in 2029. I will update you as information becomes available.

Speaking of asteroids, if you have never observed an asteroid because you thought they were to dim or hard to locate, well in the next few days you will be able to see two within a few degrees from Saturn. Herculina and Flora both, especially Flora, will be within a view degrees of Saturn. On the 16th of January Flora will lie just 1-degree

northeast of Saturn and Herculina 5 degrees northeast of the planet. Both asteroids should rival Titan in brightness, so they should be able to be located among the stars fairly easily. With good binoculars, you should be able to spot Saturn, Flora, and Herculina in the same view. A map of the threes location through February can be found at [http://skyandtelescope.com/mm\\_images/7513.gif](http://skyandtelescope.com/mm_images/7513.gif) Herculina will also make a close pass by the star Pollux between January 25-Feb. 5th, only being about two degrees south of the star on Feb. 1. Starting on Jan. 14th take a picture of the Saturn area each night through the 5th of February and see the movement of the two asteroids and a positive identification of the asteroids against the stars can be made. If you try this, be sure and bring your shots to our February meeting for discussion. The Huygens probe will also be descending through Titans atmosphere on January 14th, so the area of Saturn will be a beehive of activity.

The recent earthquake that occurred on December 26 actually caused the Earth to wobble on its axis and permanently change the geology of the surrounding area. Did you feel a little dizzy on the 26th when you got up. Seriously though, Richard Gross, a geophysicist with NASA's Jet Propulsion Laboratory in California theorized that a shift of mass toward the Earths center during the quake caused the planet to spin 3 microseconds faster and to tilt about an inch on its axis. Don't be too concerned, as Goss says, an added wobble of an inch is unlikely to cause long-term effects. When tiny variations accumulate, planetary scientists must add a "leap second" to the end of the year, something that hasn't been done in many years.

Mark your calendars for March 12th. Ron Wood of TUVA has just announced that this years Messier Marathon will be held on Saturday night at their site March 12th. This is always a fun event and one you will not want to miss. Along with seeing most of the Messier objects in one night, Comet Machholz will also still be visible in the North all night as it will be circumpolar. More about this event in February's newsletter.

**UPDATE:** The latest observations of Asteroid 2004MN now show that the asteroid has been ruled completely out for impacting the Earth or Moon in the 21st Century. After reaching the highest level on the Torino Scale that has ever been given an asteroid, it now no longer a threat. So you can cancel your Asteroid Impact Parties you were planning until another threat comes along.

LATEST UPDATE: The largest star, Herschel's Garnet Star, which was the largest known star in our galaxy has just been pushed down to the fourth largest sun. The new titleholders are KW Sagittari, V354 Cephei and KY Cygni. They are all known as red giants and if placed in the same location as our sun, all of the planets through Jupiter would be non-existent. Saturn would be the only survivor and a very hot one at that. If you were on Saturn, the only view you would have would be the sun as it would entirely block the sky. The new leaders are about 1500 times the diameter of our sun or seven times bigger than Earth's orbit. The finding was announced Jan. 10th at a meeting of the American Astronomical Society.

That's it from my corner this month, keep your eyes skyward.

## STOLEN

I had my Denkmeier II binoviewers with the dual arm power switch stolen from my home on Dec. 21. I would like to ask that anyone who comes across an opportunity to buy one of these please let me know at 230-8678.

Thanks a lot,  
Dan Lamoreaux



## Just one Club Members Adventure

Jerry Mullennix

Were you setting at home Saturday, December 11, 2004, "Thinking I might go to the observatory tonight?" But the day drew long and you looked up and saw a few clouds and thought "naw..." besides it's going to be cold tonight and so you scrubbed the idea. Well, once again you missed it. If you did not come but slipped out of your house into the backyard or your secret dark-sky viewing site then you know what I am talking about. If you are a member but did not realize that you could go up on weekends or weekdays that did not involve a star party or scheduled event then this is your official written invitation. On most weekends, ones which there is a chance of clear skies, a few of us will be at the observatory. There are a few important things to keep in mind before you come. One, there is not always someone on-site with a key to the observatory, so bathroom facilities, well I'll leave that to your imagination. Two, it's not a good idea to go by yourself since the observatory is semi-remote. To make sure you are not going alone; a few of the regulars are myself, Tim Davis, (our vice-president) Steve Chapman, (Board Member at Large) and Rick Ryan and occasionally Craig Davis (our president), Neta Apple (Night Sky Network), K. C Lobrecht and Gerry Andries (Observatory Director). If you like, you may contact one of us to be sure someone else is going up. Dress warm in layers, throw a few blankets in the car then come on up, you won't regret it.

Now for what you missed! Neta Apple, her two boys, Rick Ryan, Tim Davis and myself had a great night of viewing and astronomical discussions. While the evening did start off somewhat cloudy there were several holes with great objects to view and the clouds eventually disappeared all together. Rick and I agreed that the comet Machholz (mag 5.3) had nearly doubled in size (visually) since the last time we saw it. In between objects there was several Geminid Meteors streaking across the sky and a few across some of our eyepieces. It was tough deciding weather to view objects in the scope or just look up and enjoy the show the heavens were putting on. I am always mindful that the schedule for any given night was written and put into motion nearly 13 billion years ago. With that much planning there is not enough life span to not be amazed at something every single viewing night. I consider nights like this real gems and rare when you have comets and meteors for the shows back drop. Some of our greatest astronomers through the ages have special notes in their writings about just such a night. Then to add

to this I had the special privilege of seeing Neta Apple's son view his first comet. It is one of my biggest thrills to watch the expressions children have when they discover the wonders of our complex universe and in such gain one more piece of knowledge. You never know when you have introduced the heavens to a child that might some day open windows to our knowledge of the universe and in ways no-one has ever achieved. There are other Galileo's, Hubble's, Copernicus's and Newton's yet to come.

The list of the objects we viewed are to long to go into much detail in this writing but a few of the more dramatic were the Double Cluster, the Kite Cluster, the Pinwheel, M79, M-103, M-33, M-31 and of course Saturn and Orion. Tim, Rick and I topped this evening off with a tour of several double stars of various magnitudes an edge on galaxy and NGC 839. If you get a chance take a look at Eta Cassiopeiae RA 0h 49.282m Dec 57° 50.444' it has a smaller companion of different color and is quite nice. It is also only 19.4 light years away with a 1.5 solar mass and a magnitude of 3.43. Its companion, HIP3809 has a magnitude of 8.21 and while appearing much smaller and golden in color, is actually ranked with a 272 solar mass index but she is 1418 light years away. The separation between these two: -206058541.44.

One thing in conclusion, I would like to personally thank Neta Apple for all of the work she has put into the Night Sky Network. For those of you who are not sure what the Night Sky Network is, or how you can help just ask Neta. She loves teaching and would be happy to explain the program in more detail.

Jerry Mullennix  
Look For Me at Night

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## LASERS

By Tony White

Several club members have expressed interest over the past few months in acquiring green laser pointers for astronomy use. If we have enough interest, we can acquire legal, non-modified 20-25mW green lasers for \$150 each for club members. These laser pointers are much brighter than standard pointers and retail for as much as \$349 each plus shipping from sites like megalaser.com.

The supplier has informed us that, in light of certain recent events and focused interest by the Government on banning further sale of higher-powered laser pointers, that these may very well be the last high-powered laser pointers that may be available - certainly at this price, if available at all.

If you're interested in purchasing one of these laser pointers, please contact Tony White in person, by phone at 258-6333 (leave message), or by email to tony.white@cox.net. We need a minimum order of 10 pointers to achieve this price. The deadline for orders will be February 20th. Feel free to contact me if you have any questions. Thanks!

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## **ASTRONOMY EVENTS**

Tentatively scheduled dates below are bracketed with question marks.  
The number of persons expected is in parenthesis.

### **EVENTS AT RMCC OBSERVATORY:**

#### **JAN**

- 17 Mon 05:00 Claremore Adventist School (20)
- 22 Sat 05:00 Claremore Junior High (12)

#### **FEB**

- 04 Fri 05:00 Club Star Party
- ? 05 Sat 05:00 Back Up for 2/04 ?

#### **MAR**

- 04 Fri 05:30 Club Star Party
- ? 05 Sat 05:30 Back Up for 03/04 ?
- 12 Sat 03:00 Boy Scout Troop 193 (20 will camp)

Gerry Andries  
Observatory Group Director  
Astronomy Club of Tulsa

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## ASTRO ALERT

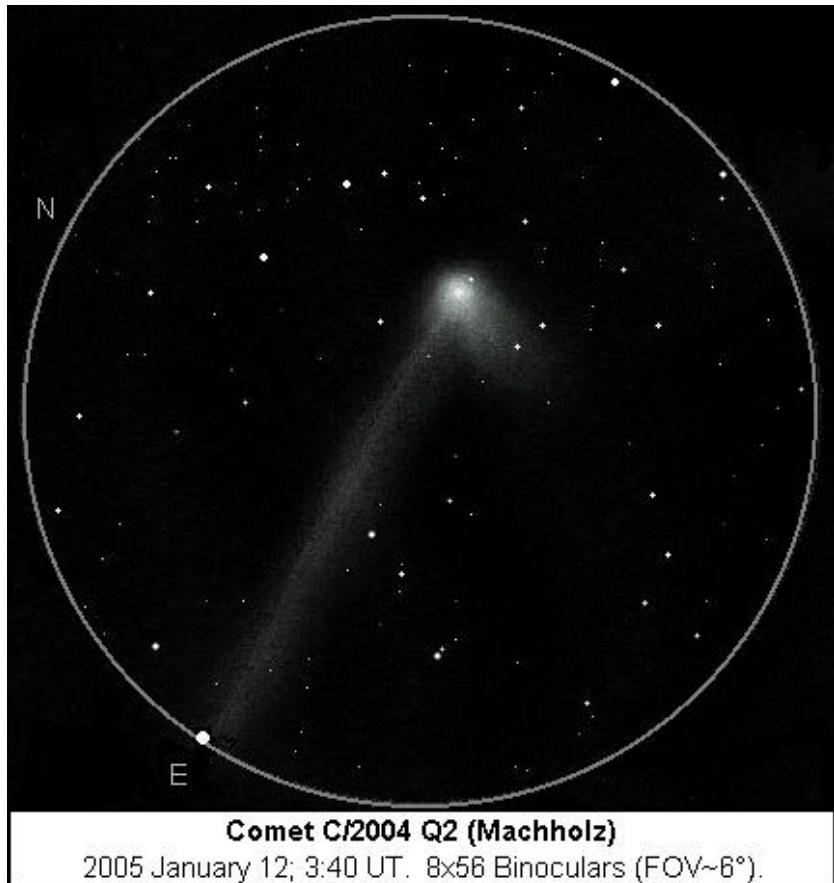
By David Stine

Comet Machholz now has a long straight narrow Ion Tail that through 8x56 binoculars can be seen according to Wes Stone, comet observer from Oregon. He observed the comet last night and states " that on January 10 there had been a couple of ill-defined jets forming the base of the ion tail, but last night when he put a 32mm wide field eyepiece in his 10 inch dob, whoa! there was now a thin, ram-rod-straight and bright structure that stretched across the field of view and the next field of view, too!!!! He went on to say that in 8x56 binoculars showed essentially the same view in miniature. The ion tail was thin but with diffuse edges, it appeared to dead-end at the star Omicron Persei, four degrees from the center of the coma. The ion tails position angle was 90 degrees. The dust tail was also quite prominent, as a broad fan centered on PA 160 degrees of a length of about 1 degree. The enclosed attachment has a sketch of the comet. The Ion Tail can really be seen if you print out the picture, stretching out of the view.

Finally we may get a chance to see this and what has developed with the comet since last weekend when we were able to view it. Tonight is looking good as well as this weekend. The comet is straight overhead by 8p.m. now and is situated between the two end stars in Perseus. The moon will start interfering by next week so the next few days are the times you should be trying to get out and observe. There also are reports of a fountain like structure coming from the nucleus also. With high powers you might be able to see this feature, however it will be small and look like a bulge in the nucleus. \

In a few days Comet Linear C/2003 K4 will return to the Northern Hemisphere skies. On the 24th the comet will be 15 degrees high in the south but the moon will be a problem. Jerry Mullenix says to wait until the 31st of January when the comet will be 25 degrees high at 9p.m. and the moon doesn't rise until after midnight. This is one of the 5 naked eye comets of 2004. The comet will be closer to 8th Mg. now, but still should be a nice object in a scope.

As always if you view either send me your impressions. Did anyone get any good pictures of the Pleiades/Machholz passage? Let me know.



## Astroland Tidbits

By John Land

Its that time of year for many of you to renew your memberships and magazine subscriptions. To spend up your renewals use the online forms at <http://www.astrotulsa.com/Club/join.asp> Please send any inquiries about your membership or other club matters to [membership@astrotulsa.com](mailto:membership@astrotulsa.com)

2005 Astronomy Calendars I still have about a dozen 2005 calendars. The pictures alone are worth the price. As club members you can get yours for \$ 8.00 each a 33% discount over the cover price. Buy 3 for \$23 or 5 or \$ 37

**ON LINE Club Memberships and Renewals:** Club memberships are \$25 per year for adults and \$15 per year for students. 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 \$29 for 1 year or \$55 for 2 years. [www.astronomy.com](http://www.astronomy.com) Sky & Telescope is \$33 / yr [www.skyandtelescope.com](http://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/> The club has coupons for a free issue

**Address Corrections- Email changes - Questions:** You may forward questions to the club call our message line at 918-688-MARS ( 6277 ) by email [membership@astrotulsa.com](mailto:membership@astrotulsa.com) Please leave a clear message with your name, phone number, your question - along with address or email Please make email subject lines that address your question. The spam filters may DELETE emails without clear identification!

## 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.

I prefer to receive my newsletter by postal mail also

Notify me by E-mail of late breaking Astronomy Events

New Adult Membership (\$25)  Student Membership (\$15)

Adult Membership Renewal (\$25)  Student Member Renewal (\$15)

Sky & Telescope Subscription (\$33) / year also includes 10% discount on most Sky & Tel products

Astronomy Subscription (\$29) / year (\$55) / two years

\* Magazine rates may change / prices available with membership only. The Student discount is intend for persons whose primary focus is education and not employed full time.

Make check payable to:

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

Email at [membership@astrotulsa.com](mailto:membership@astrotulsa.com) - or call 918-357-1759

How did you hear of the Astronomy Club of Tulsa?

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How long have you been interested or active in astronomy ?

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Do you have a telescope? \_\_\_\_\_ Type

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Have you been a member of other astronomy clubs? \_\_\_\_\_

Where / when

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What astronomy club activities would you like to participate in?

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Astronomy Club of Tulsa membership (\$25/year) includes membership in the Astronomical League and subscription to ACT's "Observer" and AL's "Reflector". "Astronomy" (\$29/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.

**OFFICERS****President:**

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**Treasure:**

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Steve Chapman  
Rod Gallagher  
Rocky Keys  
Tom McDonough  
David Stine

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**RMCC Facility Manager:**

Craig Davis—252-1781

**Membership Chairman:**

John Land—357-1759

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**Astronomy Club of Tulsa**

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<http://www.AstroTulsa.com>

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