





# The W.A.S.P. Newsletter

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## The President's Field of View

Two years ago, Diane Hall and her husband Jonathan Kade visited me on Maui. But this winter they are in Michigan. I'd like to thank Diane for doing both her job as club vice president in charge of programming, and my job as club president to run the meetings, while I have been away this winter.

I first met Jonathan and Diane at a Discussion Group meeting at Gary Gathen's home in March of 2008. Even though it was four years ago, I clearly remember my amazement that evening, seeing two new young members of our club who knew so much about astronomy, history, and every other topic of conversation that came up. They still continue to amaze me with their brilliance, their dedication, and all of the work they constantly put into our club.



Diane has been interested in space and astronomy since age 3, and piloted a simulated space shuttle at Space Camp at age 10. She has personally taught me more than I can remember about everything from electrical power grids to lunar breccia. Jonathan is a computer engineer and was our club treasurer for the past two years. He has spent endless hours on the project to obtain charity status for WAS.

Diane and Jonathan have been on the WAS board separately and together. But even when they are not on the board, they are constantly working for our club. Jonathan is our webmaster and Diane is our representative to GLACC (the association of astronomy clubs that puts on Astronomy At The Beach at Kensington every

September). They have both given several presentations at our meetings, including taking opposite sides in our last club debate about science fiction a year ago.

I look forward to seeing them, and all of you, when I am back at our club meetings next month.

Jon

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## The SWAP SHOP

This column is for those interested in buying, trading or selling. Ads run for six months. The month and year the ad will be removed is shown. Submit ads to [publications@warrenastro.org](mailto:publications@warrenastro.org).

**WANTED:** Coarse mirror-lens grinding powder (60 to 80 grit), carborundum (silicon carbide) preferred. For a coarse, glass grinding, crafting application/experimentation. It doesn't have to be optical grade--I won't be mirror-grinding. I just need to take a rough glass surface down. If you have any such abrasive that's taking up space and you want to unload it, please let me know. Contact Brian Klaus  
[alecbmdb1836ce@gmail.com](mailto:alecbmdb1836ce@gmail.com) (586) 731-0011

**FOR SALE:** 12" Meade Lightbridge Dob with light shroud and shipping boxes. Also, 16" Meade Lightbridge with light shroud, rain cover and shipping boxes. Best offer on one or both. Contact John Rasmussen 248-858-3559 [5-2012]



**FOR SALE:** 2 year old Celestron CGEM 800 telescope (8" SCT, Eq mount, Go To), with accessories purchased at the same time including the Celestron Power Tank. Asking \$1800 for the entire set up. Please feel free to call with any questions.  
David Rumble 586-295-5853 [3-2012]



**FOR SALE:** 75 mm Unitron achromatic refractor. Doublet primary. 1200 mm focal length (f16). Alt Az tripod. Excellent visual scope. Collectable, due to high quality everything. New & unused condition & in original box. Chuck Peters at 586-445-8596.



**FOR SALE:** Excellent condition classic LX-200 Meade 12" (not GPS) with a good collection of Meade eyepieces and accessories. DSI Meade camera. Also: a Russian Maksutov of around a 5" aperture. Joe Tringali 586-663-0816 or [BlipsterJoe@gmail.com](mailto:BlipsterJoe@gmail.com) [5-2012]

**FOR SALE:** Meade 10" LX200 Goto SCT with heavy duty field tripod and accessories. Asking \$2500.00 for everything. More photos all items. Call Tom, noon to 7 pm: 248-446-0072  
[t\\_zimmerman@ameritech.net](mailto:t_zimmerman@ameritech.net) [4-2012]

**FOR SALE:** 18 inch Starmaster Telescope with f/4.3 Zambuto mirror and Strehl Ratio: 0.987 Everything is in good to excellent condition. It comes with the Sky Commander DSC's, dew heater, Telrad finder, Televue Paracorr, wheel barrow handles, custom truss pole carrying covers, StarStep Observing Chair, and Starmaster oak mirror storage box. NOW \$5,995 or Best Offer! Scope Located in Plymouth, Michigan 48170... Pick up only.  
[w8tu@comcast.net](mailto:w8tu@comcast.net) Jim Frisbie [5-2012]

<http://tinyurl.com/6zo6jt6> **WAS Club logo wear**



(Photos and modeling by Jon Blum)

Diane Worth,  
dianewsky-night@yahoo.com  
or 248-980-7832 sells club logo  
clothing (hats, shirts, sweatshirts, jackets).  
Stephen Uitti brings the catalog to meetings.

**2012 Stargate Observatory Open House**  
March 17, April 21 & 28 (Astronomy Day)

### 2012 WAS Meetings

**Cranbrook Meetings: 1st Mondays**

March 5, April 2, May 7, June 4

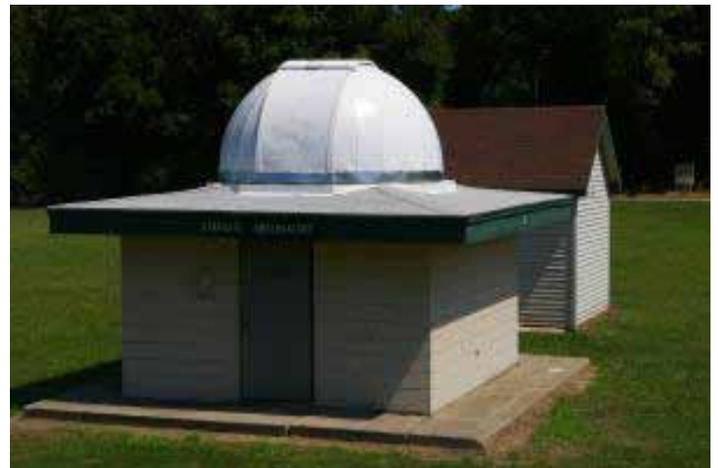
**Macomb Meetings: 3rd Thursdays**

March 15, April 19, May 17, June 21

## *Astronomical Phenomena* *February 2012*

d	h	
1	1	FIRST QUARTER
1	15	Moon furthest North (22.2)
3	20	Mars at opposition
5	5	Mercury greatest elong E(18)
5	15	Mercury 2.5N of Uranus
5	17	Mars nearest to Earth
7	3	Regulus 5.4N of Moon
8	9	FULL MOON
10	9	Moon at perigee
10	19	Spica 1.5N of Moon
11	3	Saturn 6.0N of Moon
11	22	Mercury stationary
13	23	Antares 4.7S of Moon
14	6	Venus 3.0N of Jupiter
14	13	Moon furthest South (-22.1)
15	1	LAST QUARTER
16	3	Pluto 1.3N of Moon
18	13	Mercury 4.2N of Uranus
20	3	Neptune 5.6S of Moon
20	5	Equinox
21	19	Mercury inferior conjunction
22	11	Mercury 1.5S of Moon
22	14	NEW MOON
22	18	Uranus 5.2S of Moon
24	18	Uranus at conjunction
25	22	Jupiter 3.1S of Moon
26	5	Moon at apogee
26	19	Venus 1.8N of Moon
27	6	Venus greatest elong E(46)
28	6	Aldebaran 5.2S of Moon
28	23	Moon furthest North (22.0)
30	19	FIRST QUARTER

*All times are in UTC*



## *Observatory Rules*

1. Closing time depends on weather, etc.
2. May be closed one hour after opening time if no members arrive within the first hour.
3. Contact the 2nd VP for other arrangements, such as late arrival time. Call 586-992-0498.
4. An alternate person may be appointed to open.
5. Members may arrive before or stay after the scheduled open house time.
6. Dates are subject to change or cancellation depending on weather or staff availability.
7. Postings to the Yahoo Group and/or email no later than 2 hours before starting time in case of date change or cancellation.
8. It is best to call or email the 2nd VP at least 2 hours before the posted opening with any questions. Later emails may not be receivable.
9. Generally, only strong rain or snow will prevent the open house... the plan is to be there even if it is clouded over. Often, the weather is cloudy, but it clears up as the evening progresses.

- Riyad Matti, 2nd VP

# W.A.S. History S.I.G.



This month's crop of covers yields a sixth birthday celebration of the WASP (initial issue March 1969; artwork by Frank McCullough). Inside, Diane McCullough discusses "What is Astronomy?" (hint: it ain't astrology). The 1980 cover features a lunar eclipse photo from Dave Harrington, inside Paul Strong presents Observed and Predicted Sunspot Numbers for Solar Cycle 21. In 1983, we find a cover that got a lot of mileage, appearing on many issues, presenting our Stargate Observatory. "How To Make a Position Micrometre" by Stephen Franks is inside. Finally, in 1986, Comet West 1976 makes an appearance ( on the cover, anyway) in anticipation of Halley's Comet. And to get ready, there was "The Windsor Centre of the R.A.S.C.: observing session of Halley's Comet" -a letter from Matt Bourdeau and Ken Kelly kindly calculated the positions for observing Comet Halley (1982i).

The missing pages from Feb 1977 have been located and the complete issue is online. 1983 is posted now and we're diving into 1982's scanning. Brian Klaus has kindly loaned his back issues and it looks like there may be some missing issues getting filled in.

As always, we have the complete/current collection of scanned documents available at the meetings, via thumb drives, or, if you brought your own drive, on my laptop. So far, the complete collection is 1.14 G (direct scans from the issues and created PDFs from Word), the word renditions are 260 M.

- Dale Thieme

## Oakland Astronomy Club Newsletter

<http://oaklandastronomy.ulmb.com/oacnews.html>

Clear skies, - Bill MacIntosh

# Newsletter Topic Suggestions

<b>Topics:</b>	<b>Due Date:</b>
April: <b>Best Accessories</b>	March 20
May: <b>Seeing in the Dark</b>	April 20
June: <b>My Most Stellar Moment</b>	May 20
July: <b>Home Built</b>	June 20

We really want to publish your articles and thoughts. Please consider writing for the WASP.

If you have an idea for an article that isn't one I have listed, please submit that at any time and we'll make room for it.

- Debra Chaffins

## Seven Ponds Open Invitation

WAS members are invited to The Seven Ponds Astronomy Club monthly meetings. More information about upcoming meetings, maps to Seven Ponds Nature Center, etc. is available at <http://bhmich.com/sevenpondsac/>. Please let me know if you might attend so that appropriate plans can be made. Any questions, please contact me.

- John Lines

## Upcoming Talks

Mar 15 M	Ken Bertin	Annual In The News and others
Apr 2 C	Ken Bertin Jonathan Kade	Ole Romer Alcyone Days (short talk)
April 19 M	Ken Bertin (w/ Jon Blum)	Astronomy Apps for iPhone and iPad
May 7 C	Chuck Dezelah	Urban Observing: Targets, Tips, and Tactics

## *Speaker's Corner - March 5, Cranbrook*

### **Main Talk: "Einstein and Newton, Two Different Views of the Kinetics of Motion"**

**Bill Margolin:** I am a mechanical engineer with over 30 years experience in the Advanced Engineering and Engineering Research departments. I was involved in the design of automatic transmissions at a time when they were still evolving. Newton was my source of knowledge. After I retired, I taught at the University of Windsor where I spent a lot of time with the Physics Department personnel. I learned that they think any new development in the science of physics must be compatible with Newton. There are a couple of things in the Special Theory which differ with Newton.

### **Short Talk: "Telescope Steve won at AATB Kensington"**

**Stephen Uitti:** In 2011, Astronomy At "The Beach" was held on September 9th and 10th. There is a raffle for volunteers, and I won the grand prize from Celestron, a 60 mm refractor on an alt-az go-to mount. This short talk is an equipment review covering Price, Portability, and Performance. Weight and volume for transport, set up and set up time, tracking, astrophotography, visual magnitude limit, what one can see with it, and what I'll likely do with it.

Stephen has been astronomically active for about a decade. He has served on the WAS board, conducted outreach, and helps produce the local TV show, Astronomy For Everyone. His interests also include optimizing cost effectiveness, for example, the cheapest useful telescopes.

## *Astro Chatter*

The Internet is a vast place. At times it feels as big as the universe, and at times as small as my laptop. Of course, my husband Brian is pretty certain that it's really just a fad. But one of the things that I love about it is feeling like an explorer discovering new and interesting things.

Recently, I've found that I have a fondness for blogs. I like looking for interesting ones with people I can identify with, or learn from, who want to share their experiences in a very conversational way. I've found blogs from people who are just getting started with astrophotography and are sharing their successes, failures, and techniques. I find it comforting to see how good many of them get quite quickly, and feel it could help with my learning curve. Mike's Astronomy and Astrophotography blog (<http://mikes-astro.blogspot.com/>) is like that. He's from Ohio.

Sometimes it's fun to find someone looking at the same sky, but in another country. Keith's Astro Page (<http://keithsastropage.blogspot.com/>) is one that I've enjoyed. He's from Suffolk, UK.

If you like things that are a little more polished, then you might like this one from the Sydney Observatory

(<http://www.sydneyobservatory.com.au/observations-blog/>). There's a good mix of science and observation there.

In honor of our current club president's Hawaiian retreat, I even found a blog from an astronomer who works at UKIRT on Mauna Kea. His blog is the Pacific View. (<http://apacificview.blogspot.com/>)

Astrobetter (<http://www.astrobetter.com/>) is a nifty currently updated blog that gives "Tips and Tricks for Professional Astronomers" What I like best about this one is the variety of very interesting authors that post articles.

My newest discovery, which I am finding quite fascinating, is a blog called Space Politics (<http://www.spacepolitics.com/>). I'm quite delighted that this one is being updated on a regular basis. This blog offers "news and commentary about key issues affecting civil, commercial, and military space efforts." I will definitely be keeping an eye on this one!

So...have you read any really good blogs lately? Do you write one? Please email me at [publications@warrenastro.org](mailto:publications@warrenastro.org) and I'll gladly post them in future editions of the WASP.

-Debra Chaffins

## WAS Board Meeting February 6, 2012

**Board members:** Jon Blum (via Skype), Diane Hall, Dale Partin, Dale Thieme, Bob Berta, Debra Chaffins.

**General members:** Ken Bertin, Dave Bailey, Jonathan Kade, Marty Kunz,

### Reports:

VP Diane Hall brought the meeting to order at 6:52

**President:** (see Cranbrook meeting notes)

**1VP:** Rapidly filling the dates for 2012. Need more short talks.

**2VP:** NA

### Treasurer: MEMBERSHIP

We currently have 26 members (6 of which are family members), paid up through 12/31/2012 or later.

### INCOME AND EXPENDITURES (SUMMARY)

We took in \$2829.87 and spent \$1174.43. We have \$8790.38 in the bank account, \$246.25 in cash, and a check for \$22.00, totaling of \$9058.63.

Insurance was paid, received second installment of \$2000.

Issue of petty cash amount set in by-laws at \$200, recommended that the amount needs to be set by the board. The board's recommendation to put before the membership: Change the by-laws to read: The Treasurer shall carry a maximum amount of petty cash to be determined by the board of directors. Proposal to eliminate the raffle until we achieve

501c3 status. Following discussion, the board agreed to suspend raffle pending legal issue clarification.

Mailer cost \$106 dollars. Ledger reconstruction continues.

**Secretary:** Belated report- Acting on behalf of Therese Oldani, I sent out 35 beg letters for the Awards Banquet, response was 13, including three new suggestions by Lois Thieme (Cranbrook, Redcoat Tavern and National Coney Island - 100% return rate on her call). Additionally, 14 WAS members donated items. In the weekend following the banquet, I sent out thank you letters to all the respondents.

**Outreach:** Boy scout camp this weekend outreach. Added a solar scope to the site from a new grant. Night Sky observing pin award available.

**Publications:** Newsletter is out, survey posted. an email will be sent out linking to it.

### Old Business:

Banquet survey/Date change has been posted on the web site.

### New Business:

Bylaws change to increase petty cash limit to \$500 covered in Treasurer report.

FAAC swap meet. need volunteers to man table. Bob will promote.

suggestion to make a display in the Belle Isle aquarium, in one of the empty tanks.

The meeting adjourned at 7:20



## **WAS Cranbrook Meeting February 6, 2012**

Time: 7:31, 45 in attendance

### **Officer Reports:**

Diane Hall brought the meeting to order. The following was read on Jon Blum's behalf: Debra Chaffins has given our club newsletter, the WASP, a complete makeover, and it is terrific. She writes the Astro Chatter column, which this month has some new ideas for articles that members can write. Dale Thieme has a new column in the newsletter, about WAS history as revealed in past issues of the newsletter from decades ago. Dale Partin writes a treasurer's report in each issue. Brian Thieme designed a great-looking new cover page and front-page header. You should be receiving an email before the Cranbrook meeting each month, with a link for you to click on to get the new month's issue of our club newsletter. If you are not receiving those monthly emails about the WASP, write your name and email address on a note to give to any officer, to be passed along to Dick Gala who sends out our club emails.

**1VP:** Roll call. information flyers available. one new visitor. snack announcement. applause for Bob Trembly.

**2VP:** Last open house very successful, great turnout. Call Bob or Riyad for weather conditions.

**Treasurer:** Just got a stack of membership applications. Membership renewal reminder, mention of the mailer. The board approved two changes: 50/50 raffle suspended. Proposed change in the by-laws concerning the petty cash fund. Magazine subscriptions-discounts.

**Secretary:** Report from the 2011 Annual Banquet: we sent out 35 beg letters for the Awards Banquet, response was 13, including three new suggestions by Lois Thieme (Cranbrook, Redcoat Tavern and National Coney Island - 100% return rate on her call). Additionally, 14 WAS members donated items. Thank you letters were then sent, following the banquet.

**Outreach:** FAAC swap meet, 3/10. WAS will have a table. Sidewalk astronomy, at Lake St Clair Metropark 3/31, 4-8 pm viewing until after dark.

**Publications:** Feb. WASP is out, Articles wanted: best accessories, seeing in the dark, my most stellar moment, and home built are the topics suggested. The banquet date survey is posted online.

### **SIG Reports**

**Discussion Group:** Watched What the Universe was made of. Discussed. 5-6 members present. 4th Thursday every month.

**Solar Group:** Marty Kunz reported that the Solar Group had a meeting Sunday, the 5th. They saw prominences and several WAS members attended.

**Hands On:** Third Saturday of the month.

**History:** Nearly half the 83 issues are online, A big thanks to Brian Klaus or a donation of old issues, complementing our current collection.

**Radio Astronomy:** Making progress on the radio telescope. Planning to move the antenna.

**Astronomy League:** ALCON 2012, Chicago. Looking to assemble a WAS contingent.

**Merchandise:** We got stuff! Library open at the break. Awards for giving presentations: Larry Phipps, Sai Rajagopalan.

### **Observing reports:**

Bob Berta took a shot last night. Wayne State presentations. Bob Trombley came to the solar day at Cranbrook.

### **In The News:**

Emmet County launches plan to create 22,500 acre Dark Sky Coast  
Cartoon about the state of the US space program  
Tiny volcanic moon controls Jupiter's auroras  
Fomalhaut's giant exoplanet may be small lava world  
Earth in bumpy ride as solar storms hit  
Baby pulsars spawn universe's most energetic particles  
Hayabusa's asteroid-sampling mission, take two

**Short Talk:** Curiosity Mars Rover by Alan Kaplan

**Presentation:** 12/27/68: The Day the USSR Lost the Moon Race by Diane Hall

Meeting ended at 10:39

## WAS Macomb Meeting February 16, 2012

Time: 7:32, 28 in attendance

### Officer Reports:

Diane Hall brought meeting to order. 1 visitor. Read President notes (see Cranbrook meeting notes).

**1VP:** Tonights presentation by Steve Uitti. Future dates filling up.

**2VP:** Next open house on the 18th.

**Treasurer:** (see Treasurer's report) 50/50 raffle suspended.

Amendment proposal announced: The Treasurer shall carry a maximum amount of petty cash to be determined by the board of directors.

**Outreach:** Lee Hartwell will be at open house. Several contacts from scout groups and schools. Boy Scout camp has a new solar telescope through a grant. FAAC swap meet march 10. Need table volunteers. Metro Beach Sidewalk Astronomy March 31 from 5-10. Grand Valley State invite for a talk,

**Publications:** WASP is posted for February.

### SIG Reports

Discussion Group: Meets 4th Thursday of the month. Gary Gathen's house in Pleasant Ridge

**Solar Group:** Sun's active, 1st Sunday of the Month at Cranbrook

**History:** 1983 up through September posted. Oct, Nov next and on to 1982.

Radio Astronomy- Saturdays at McMath-Hulbert

**Astronomy League:** new membership cycle underway.

"Globe at Night" program participation was encouraged.

**Observing report:** Gary Ross-  $\gamma$ -Virginis, Sigma 1964 (a quad system that Gary couldn't split, even with the finest optics in the Veene Observatory) The comet, 2009p Garrad, is showing at 7.4 Mag, good in Binoculars

### In The News

Why Ancient Star Clusters are all the Same Size  
NASA Scales back hunt for life on Mars  
Private Spacecraft move forward as Soyuz Struggles  
Lost Treasures: President Nixon's Moonrocks  
LARES 'mirror ball' satellite will test Einstein's Theory

Announcement of the Annual Banquet day preferences survey.

**Presentation:** "Winged Messengers to Mercury"  
-Steve Uitti

Meeting ended at 9:39

-Dale Thieme, WAS Secretary

*From our home on the Earth, we look out into the distances and strive to imagine the sort of world into which we are born. . . . But with increasing distance our knowledge fades, and fades rapidly, until at the last dim horizon, we search among ghostly errors of observations for landmarks that are scarcely more substantial. The search will continue. The urge is older than history. It is not satisfied and it will not be oppressed.*

— Edwin Hubble, last paragraph of his last published scientific paper, 'The Law of Red Shifts (George Darwin Lecture),' *Monthly Notices of the Royal Astronomical Society*, volume 113, 1953

## *Speaker's Corner - March 15, Macomb*

### **First Annual Astronomy News Report**

Ken Bertin presents In The News at most of our meetings. Some members have requested a more in-depth news report of the most important astronomy news stories of the year. Ken, together with Mike O'Dowd, Fred Gluckson and other contributors, will discuss the biggest astronomy news of 2011.

Ken says, I have been a member of the Warren Astronomical Society on and off for about 30 years. I became increasingly active in the 90s and was president of the club in 2004 and 2005. In 2002 and 2003, as first vice president I reorganized the way the club sets up speakers each month, the procedure which continues to the present. I was awarded the John Searles award in 2001 and was recipient of the armchair astronomer award in 2009. Astronomy has been my hobby from the age of five. I received my first telescope a Tasco 60 mm when I was seven and at the age of 11 my father's business partner gifted me an 8 inch Dynamax reflector. In high school, I organized an astronomy club which had over 50 students. I decided not to make astronomy a vocation for various reasons but attended the University of Arizona because, in part, of its fine astronomy department. I am an experienced eclipse chaser, having observed 10 total solar eclipses and three annular solar eclipses along with numerous partial solar eclipses. I have observed at least 15 partial and total lunar eclipses. My interest in astronomy is far ranging, but I am intensely interested, along with eclipses, in the history of the science. My past lecturing has been on the historical figures: Galileo, Kepler, Tycho Brahe, Newton, the William Herschel family, Edward Emerson Barnard, Christian Huygens, Giovanni Cassini (plus his progeny) and George Ellery Hale. I also did a lecture on the minor astronomers through history. Also, I did a long lecture on the complete history of astronomy. I have lectured at schools and universities along with senior citizen complexes. I am married to the same lady, Linda, since 1972 and lived in the same home in West Bloomfield since I married. I have a daughter, Gennifer and am the grandfather of six-year-old twins, Ian and Ryan.

## *Treasurer's Report*

### **NONPROFIT STATUS**

No activity this month.

### **MEMBERSHIP**

We currently have 65 members (13 of which are family memberships).

### **INCOME AND EXPENDITURES (SUMMARY)**

We took in \$1695.11 and spent \$592.77. We have \$9983.02 in the bank account and \$177.95 in cash, totaling of \$10160.97.

### **COSTS AND REIMBURSEMENTS**

\$9.00 postage  
\$38.66 snack reimbursements  
\$144.16 payment for 4 award plaques  
\$328.95 magazine subscriptions  
\$72.00 Meetup semi-annual fee

### **INCOME**

\$1104.00 new memberships and renewals  
\$75.00 calendars  
\$428.75 magazine subscriptions  
\$45.00 Astronomical League memberships  
\$39.36 miscellaneous donations  
\$3.00 merchandise sales

- Dale Partin

## Double Star Report

20th OF FEBRUARY

All observations in the 16" Borr Telescope at 125X

**y Centauri -- (Howe 28).** Very wide, White-Blue, P.A. 5 deg., double only.

Becvar: 6.4/ 6.5 @ 1 arc-sec., P.A. 115 (1942). However, Hirshfeld and Sinnott cite a mere 0.2" separation (really closed up in 17 yrs.?), but more interestingly an 8.5 magnitude companion @ 67", P.A. 4 degrees (1959), what I saw. Plotted triple correctly on SKALNATE PLESO, but double on SKY ATLAS 2000. There is also, per H&S a 12.6 mag. companion 28" away, making y Cen a quadruple!

**Howe 94 Centauri --** To the west of y, close, White-blue, P.A. 0 degrees.

H&S: 6.6/ 9.6 mags. @ 12" P.A. 355 degrees (1938). "F" primary star. The system has not moved much in all these decades.

**k Centauri --** (3 Cen) Medium-close, White-white, P.A. 100 deg. Becvar: 4.7/6.2 @ 8 arc-sec., P.A. 110 (1922). H&S: 4.5/ 6.0, also 8" separation, P.A. 108 deg. (1954). It may be my position angle represents real closing of the system. "B" class primary star.

**Howe 74 Centauri --** To the east of k, supra, a fine pair! H&S: 7.1/ 9.5 @ 6 arc-seconds (1877). There are data from 1938 but missing these elements.

**h Centauri --** (4 Cen), wide, White-blue, P.A. 190. Becvar: 4.8/ 8.5 @ 15", P.A. 186 (1919) with "B" class primary. Hirschfeld and Sinnott: 4.7/ 8.4 @ 15", P.A. 185 (1951), a double star system not going anywhere fast. Satisfying that my Position Angle measurement is congruent sixty years on.

**Beta 343 Centauri --** To N. of h Cen. Very wide, Yellow-blue, P.A. 90 degrees. Becvar: 6.5/ 7.8 @ 1", P.A. 100 degrees (1926). H&S: essentially same numbers (1959). My P.A. probably represents uncertainty of method; I doubt the system has shifted much.

- G. M. Ross



## Ford Club Astronomy Swap Meet

The Ford Amateur Astronomy Club (FAAC) invites all members of the Warren club and their friends to their 9th annual Astronomy Show and Swap Meet. This event will take place on Saturday, March 10, 2012, from 9 AM to 3 PM at the Holy Cross Church gymnasium, 30650 Six Mile, Livonia, 48152. Admission fee is \$5.

This is your chance to get a bargain price on used astronomy equipment being sold by members of all local clubs. You will also be able to attend astronomy presentations at 10:00 AM, 11:15 AM, 12:30 PM, and 2:00 PM. For the kids, there will be planetarium shows at 10 AM, 11 AM, 1 PM, and 2 PM.

For any questions, or to arrange to sell some of your own used equipment at this show, contact FAAC members Jim Frisbie [w8tu@comcast.net](mailto:w8tu@comcast.net) or 734-453-1422, or Frank Ancona 248-345-0176.