



The Prairie Astronomer

October, 2009

Volume 50, Issue #10

The Official Newsletter of the Prairie Astronomy Club

PAC Program

Updates on the status of the Mars Science Laboratory mission, scheduled to be launched in 2011.

In This Issue

Rick Johnson's Observatory Update, Outreach Activities, Nagin Cox, November Observing and Constellations, Observing Awards.

Rick Johnson's photo of ARP 192 , NGC 3303. See page 8 for details.

Featured Photo

Please send your astrophotos to Mark Dahmke to be added to the PAC website and the newsletter.



Saturn image courtesy NASA.

Club Outreach Events – Dave Churilla

We're closing in on the end of the year and the last of the Outreach Activities for the club.

At the time of writing this we've completed the Spring Creek Twilight on the Tallgrass and the Homestead Boy Scout Camporee. Many thanks to the volunteers who have helped out. Spring Creek saw about 200-250 people view through our scopes – a smaller number than in past years probably due to the night Nebraska Football game that day. But the night was a good one and many people got a chance to view some great objects. Event organizers send their thanks to PAC for our help.

On October 10th we set up at the Freeman School at Homestead National Monument for about 80 boys and parents for their Boy Scout Camporee. Unfortunately they were late getting the boys out to us and the skies closed in as they arrived. But some got some views of objects and all got a chance at seeing Jupiter so it wasn't a total loss. There were many positive comments and some of the boys were very interested...maybe some budding club members!

We still have a rather large Outreach Activity planned on October 24th that we can use help with. Please let me know if you want to help out so I can give you directions and instructions as to where we are going, what we are doing, when to be there, etc.

October 24th – Homestead Howling Halloween: This is an annual event for PAC. The Homestead National Park holds an open house of sorts by having activities for Halloween for kids and parents. It also draws over 500 people to our scopes. I could use a few more volunteers for this event. So far I have John Lammers, Jay Bauers, Dave Churilla, Bob Kacvinsky, & Jim Kvasnicka who have committed to help and Dale Bazan, Dave Knisely and Dan Delzell who are maybes.

I have to confess that it will be nice to be able to relax without having an activity hanging over my head, but many of us are in the middle of planning for the Mid States Regional Astronomy League Convention next June and that's taking up some time. Don't forget, this is also an Outreach Activity and we can use your help. Let Jack or Steve Lloyd know if you are interested in lending a hand.

And again, as Outreach Coordinator I do NOT need to handle every Outreach Activity that we do. If you are asked to do something by all means you can take care of it and even get volunteers. But I would like to ask that you inform me of the activity ahead of time and then give me the final information when it's over. I'm keeping records of all our Outreach efforts and need the date, time, type of event, PAC's activity in the event, who the volunteers were, how many people were at the event, start and end times, and contact individual with their email and phone number.

Thanks for all your help and I hope we see more of you helping out at our Outreach Activities.



Meeting Minutes

ON THE NET

Program: Jack Horkeimer – Video & Misc.

Visitors – Louis Rude & Todd Lisky

October Star Parties: 16th & 23rd

Homestead Boy Scout Star Party: 10th October

Homestead Halloween Star Party: 24th October

Astronomy League Mid-States: June 4th-6th 2010

PAC 50th April 2011

South of K.C. Near Butler (Heart of America Star Party)

Jim K. Observing Report

Possible Oct. 9th Star Party (Moon @ 10:39pm)
Lunar Party 28th Aug. – 8 Attendees & 7 Scopes
Star Party 18th Sept. – 16 Attendees & 5 Scopes

UNL 7pm @ Union – Nagina Cox – Mars Rover(s)

Astroid 3 Juno – see Sky & Telescope

Observing Awards: Globular Cluster – Dan Delzell & Dave Churilla

Three proposals to improve observing site:

- 1) crushed rock For 22, Against 1, PASS
- 2) Gift card for Bussboom's (paid for with funds from site fund), For 22, Against 1, PASS
- 3) Mowing cost (Jim K. Abstains from voting), For 22, Against 0., PASS

Note: 1) thru 3) coming out of savings and Dan D. says we'll just break even each year.

Savings > \$30,000.00 / (\$600.00 / year) = 50 years.

Audubon Spring Creek Prairie on 26th September

Volunteers: Dave C., Cassie E., Jim K., Bob K., ... ~ 10 people

Astronomy at Southwest High School last Sunday night

Mark D. working on PAC History Book

Dave C.'s Outreach Report 2009 (~3 years worth)

Club Officer Nominations:

Secretary	Brett Boller
Treasurer	Bob Kacvinsky
2 nd V.P. / Program Chair	Steve Lloyd
V.P.	Jason Noelle, Jack Dunn
President	Dan Delzell

Program – “The Moving Earth”

MSRAL 2010: Rob Landis as speaker
First Door prize in – 2” 26 mm eyepiece

PAC:

www.prairieastronomyclub.org

PAC E-Mail:

info@prairieastronomyclub.org

NSP:

www.nebraskastarparty.org

NSP E-Mail:

info@nebraskastarparty.org

OAS

www.OmahaAstro.com

Hyde Observatory

www.hydeobservatory.info

Panhandle Astronomy Club

Panhandleastronomyclub.com

PAC-LIST: You may subscribe to the PAC listserv by sending an e-mail message to: mailsrv@prairieastronomyclub.org. In the body of the message, write “Subscribe PAC-List your-email-address@your-domain.com”

For example:

Subscribe pac-list me@myISP.com

To post messages to the list, send to the address

pac-list@prairieastronomyclub.org

PAC can also be found on Twitter and Facebook.

Buy club apparel through the club website. Shirts, hats, mugs, mouse pads and more.



November Observing: What to View--Jim Kvasnicka

This is a partial list of objects visible for the upcoming month.

Planets

Jupiter: Brilliant at magnitude -2.4 in Capricornus.

Neptune: Reduces the distance from Jupiter from 6° to 3°.

Uranus: Magnitude 5.8 in Aquarius.

Mars: In Cancer. On Oct 31 – Nov 2 it passes through the Beehive Cluster.

Venus: By the end of the month it is rising less than an hour before the Sun.

Mercury: Not visible in November.

Saturn: Rises well past midnight at magnitude 1.0 in the head of Virgo.

Meteor Showers

Leonids: November 16-17. Peaks from midnight on the 16th to dawn on the 17th. Last year it peaked at 100 per hour and they are predicting more this year.

November Messier List

M27: The Dumbbell Nebula in Vulpecula.

M30: Globular cluster in Capricornus.

M56: Globular cluster in Lyra, poor concentration.

M57: The Ring Nebula in Lyra.

M71: Globular cluster in Sagitta, weak concentration.

M72: Globular cluster in Aquarius.

M73: Y shaped asterism in Aquarius.

Last Month: M11, M16, M17, M18, M24, M25, M26, M55, M75

Next Month: M2, M15, M29, M31, M32, M39, M52, M110

NGC and Other Deep Sky Objects

NGC 288: Globular cluster in Sculptor.

NGC 663: Open cluster in Cassiopeia. NGC 654 and 659 nearby.

NGC 891: Elongated galaxy in Andromeda.

NGC 7662: The Blue Snowball in Andromeda.

NGC 7789: Very rich open cluster in Cassiopeia.

Double Star Club List

Iota Trianguli: Yellow primary with a pale blue secondary.

Gamma Arietis: Two equal white stars.

Lambda Arietis: Yellow and pale blue stars.

65 Piscium: Equal pair of yellow stars.

Psi 1 Piscium: Equal bluish white pair.

Zeta Piscium: White and yellow stars.

Alpha Piscium: Close pair of white stars.

Gamma Andromedae: Almach, yellow and greenish-blue stars.

Challenge Object

Maffei 1: Heavily reddened 5' x 3' galaxy in Cassiopeia. Very faint; requires large aperture and dark skies.

Observing Awards

At the September PAC meeting the following members received observing awards from the Astronomical League.

Globular Cluster Observing Club

Dan Delzell

Dave Churilla

Congratulations to Dan and Dave for earning their observing awards.

Club Events

Homestead Halloween

Homestead National Park

October 24, 2009

PAC Club Meeting

Tuesday, October 27, 2009 7:30pm @

Hyde Obsv.

Next newsletter submission deadline:

November 15.

PAC Club Meeting

Tuesday, November 24, 2009 7:30pm @

Hyde Obsv.

MSRAL Convention

June 4-6, 2010

2009 Star Party Dates

October 23rd, **November 13th** and

November 20th, December 11th and

December 18th

The date that is **bold and underlined** is the date closest to the New Moon.

Focus On Constellations - Jim Kvasnicka

Andromeda

Andromeda the Princess extends from the NE corner of the Great Square of Pegasus. Andromeda is the 19th largest constellation with an area of 722 square degrees. Due to her position away from the galactic plane, few nebulae can be found in the constellation; however, the area is a window to deep space allowing us to see galaxies of all types. The most famous object in the constellation is M31 the Andromeda Galaxy. It has two companion galaxies M32 and M110. Andromeda contains many fine double stars and a couple of open clusters. Another showpiece object is NGC 7662, the Blue Snowball, a bluish planetary nebula. The constellation Andromeda is best seen in November.

Mythology

The mythology around Andromeda is one of the most famous Greek myths. Andromeda was chained to a rock on the shore by her father, Cepheus, as a sacrifice to appease the avenging sea monster, Cetus. The hero in the myth, Perseus, comes to her rescue riding Pegasus the winged horse. Perseus slays the monster and marries Andromeda. Adjacent constellations represent all the characters in the myth: her parents Cepheus and Cassiopeia, her hero Perseus and his winged horse Pegasus, and the sea monster Cetus.

Objects in Andromeda Magnitude 12.0 and Brighter

Galaxies: M31, M32, M110, NGC891, NGC404, NGC812, NGC7640,

IC239

Open Clusters: NGC7686, NGC752, NGC956

Globular Clusters:

Planetary Nebulae: NGC7662

Bright Nebulae:

SNREM:

Dark Nebulae:

Named Stars: Alpheratz (Alpha), Mirach (Beta), Almach (Gamma), Adhil (Xi)

Number of Aquarius Objects in Various Observing Clubs

Messier Club: 3 objects

Double Star Club: 1 object

Herschel 400 Club: 6 objects

Globular Cluster Club: 0 objects

Open Cluster Club: 1 object

Planetary Nebula Club: 1 object

Urban Club: 5 objects

ANNUAL MEMBERSHIP DUES

REGULAR MEMBER - \$30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - \$35.00 per year. Same as regular member except gets 2 votes at club meetings.

If you renew your membership prior to your annual renewal date, you will receive a 10% discount.

Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.

Club Telescopes

To check out one of the club telescopes, contact Cassie Edmund at cggymnast1@aol.com. If you keep a scope for more than a week, please check in with Cassie once a week, to verify the location of the telescope and how long you plan to use it. The checkout time limit will be two weeks, but can be extended if no one else has requested use of a club scope.



Nagin Cox Visit– Jack Dunn

We had a great time with Nagin Cox of JPL in both Omaha and Lincoln. She talked to 7th graders at King Middle Magnet School, gave a colloquium at Creighton U. to Physics and Engineering students on Friday. For instance, at Creighton, people followed us into the board room and people had questions and discussion for another hour afterwards.

I was very happy with the turnout on Friday night at the UNL Union. Four students (Society of Women in Engineering officers) came with us to dinner afterwards along with Brian and Mark and Shawn from UNL Physics. We learned a lot about women in engineering at UNL. They were all bio-engineers, but one girl said that after hearing Nagin speak, she wished she could work on a rover. Turns out that one of them is the team leader for UNL's microgravity team that will fly an experiment on the Vomit Comet next April.



She's already asked to work with us on promoting their activities. The SWE students told us there are about 10% women in the UNL Engineering program. They didn't know of any EE majors at UNL. But we found the one young lady at UNL who is an EE major!

She came to the talk Friday night and came Saturday night at Hyde Observatory and identified herself. Afterwards Nagin and I got to talk to her. Nagin offered help in getting into JPL internship programs. She has hired interns all the time who were sponsored by Spacegrant. So I have already contacted Michael Sibbersen at Nebraska Spacegrant and he is giving her all the information she needs about applying for Spacegrant funding. Both Nagin and I were really happy about this and thought I should share with you.

We had over 100 people there Friday night at the Union, and another 55 at the Museum and I know a lot were students. Plus we had another 40 at Hyde on Saturday night. At all locations we were able to plug Hyde. I forgot to ask Brian for the PAC banner, to take to the other locations, but PAC and Hyde did get mentioned. Even in Omaha (g).

Nagin's husband Earl is also an engineer involved with aeronautics. They and her in-laws are heavily involved in supporting electric automotive research. Just something cool - they own a "Tesla" sports car. Check it out. <http://www.teslamotors.com/>

From the Newsletter Archives – October, 1969

QUOTE OF THE MONTH

In reply to a question posed by Monte [Cole], "What really is the purpose of grazing occultations?" at the national convention this year, David Dunham replied, "Well they sure keep a lot of amateurs busy."

Heart of America Star Party– Bob Kacvinsky

Dan Delzell, Jim Kvasnicka, Dave Churilla, and Bob Kacvinsky attended the Heart of America Star Party hosted by the Kansas City Astronomy Club (KCAC). The party was located approximately 60 miles south of Kansas City just west of Butler, Missouri. We traveled down on Friday in time for a great BBQ dinner and drawings. The observing site is nestled near a state park, along a 2 mile one lane dirt road, so traffic and other lights are minimal. The observing field is located on about 20 acres along the top of a ridge line. The KCAC has recently erected a 40 x 60 pole building on their site that was great for meals and presentations. There were 137 people registered at the event, with about 100 or so having dinner each night. We met people from Wisconsin, Arkansas, Kansas, Iowa, Minnesota, Illinois, and of course MO. Many of the attendees were in campers and mobile trailers set up for the weekend.

The Clear Sky Clock for Friday night predicted that there would be about a 3 hour open sky window from midnight to 3 PM. Unfortunately, the 3 hour window occurred from about 5 to 8 PM. We set up our scopes and had about an hour of good viewing before clouds moved in and completely socked in the skies. We waited around for awhile but the skies did not look favorable, so we packed up and returned to the hotel. The skies did not clear out and rain began for those that stayed at the site early in the morning.

Saturday morning started out with rain and drizzle. The Clear Sky prediction was for clearing skies around 6 PM. We spent the day watching football and arrived at the observing site around 5 PM to cloudy skies with some thinning. We set up the scopes and enjoyed another great BBQ dinner before dark. The skies mostly cleared just about sunset and we began enjoying the night. Dan Delzell was working on the Coldwell list, Dave Churilla began working on his double star list, Jim Kvasnicka was gathering the Herschel's, and Bob Kacvinsky worked on his Globulars. At about 8:30, a fog rolled in and hung over the site with about 50' of thickness. We had a lot of challenges managing the wetness on the equipment, charts, and paperwork. We waited till about 9 PM, and the temps finally fell to the freezing mark which collapsed the fog, but added a problem with frost. We were building up a layer of frost on the scopes till around 11:30 PM when we decided to pack up and leave. Everyone had winter gear so the temps were not too hard to handle. We really did not have any problems except for Dave's wet spot was threatening to freeze. You'll have to ask Dave for more details.

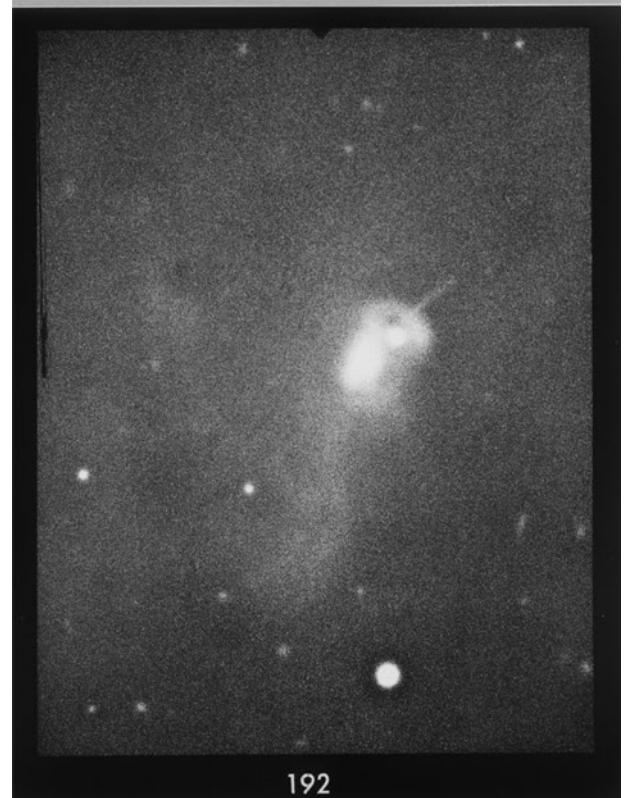
Overall the Star party was a very well run and enjoyable event. They announced both evenings the upcoming MSRAL event and had the post card reminders available for everyone to pick up. Several of the KCAC members mentioned they would make an effort to get to MSRAL next June. The KCAC site is a good dark sky site. There is a power plant a few miles to the north, so there is a sky glow which reduced the overall darkness. Generally, we felt the site was not as good as "The Farm" but offered a nice weekend of viewing. We were able to represent PAC along with promoting the MSRAL next June.



Observatory Update, Special Edition – Rick Johnson

It's not often an amateur observatory gets to correct the astronomical literature but it appears my little project of imaging in color the Arp galaxies I can reach from my latitude apparently got the ball rolling to do just that. Early astronomers only had their eyes and thus were often fooled. Many NGC objects are just stars for instance, Mars canals don't exist nor does Vulcan. Photography helped eliminate the errors but if you don't take a second image they can lead you astray as well. This happened to Arp with his 192nd entry. Time on the 200" was difficult to come by and his project ate up a lot of it. It appears he rarely if ever, was able to take two images of his objects. But many other images of Arp 192 have been taken since yet no one seems to have noticed the main feature of the galaxy pair doesn't exist! Well it does but not as Arp and others using his image thought. This will be a long post as the story is rather long. I'll start with the basics as Arp and others saw them.

ARP 192 NGC 3303, two interacting galaxies with a huge tidal spray. Arp classed it in his category, Galaxies (not classifiable as S or E): Narrow filaments. Indeed his often reproduced image shows a great jet or spike that probably caused it to be put in this classification. Also notes at NED say things like: "Very peculiar spiral with a compact companion and a spike. Very faint outer extension." and "Main body 0.5 x 0.4 with stellar companion superimposed, loop + sharp jet, enormous irregular plumes." Arp said; "Diffuse faint arms off both sides, spike comes from stellar companion." Here's his image a bit reduced and converted to a positive print.



There things stood for 46 years until I imaged it and had a "What the #&*@!" reaction looking at my image and comparing it to Arp's. Others, including Sloan had imaged it but somehow overlooked the obvious. Here is the above image overlaid on my image as it switches back and forth between the two images. The famous spike doesn't exist! Over all these years and references to the spike no one seems to have noticed! I was sure my image would have shown it if it did exist. I find imagers saying that it apparently is below their resolution ability. But the SDSS image is of sufficient resolution and it doesn't show it yet no one noticed that I can find. Still my image goes as deep and does have about the resolution of Arp's image yet there's not even the slightest hint of the jet. Galaxy sized events don't vanish this quickly.

This is where things stood for a while. I put out a few feelers but nothing came of them. Finally I blindly emailed one of the contributors to the Jeff Knipe and Dennis Webb book on the catalog who contacted the authors. The best suggestion we could come up with was that it was an asteroid but to confirm that we needed to know the exact date and time of Arp's image. Then it would take a special request of Brian Marsden of the Minor Planet Center to run known asteroids for that date. This wasn't an easy task. But despite a Cal Tech librarian's best efforts Jeff Knipe managed to get the date and Marsden confirmed the spike is really asteroid (84447) 2002 TU240. It wasn't discovered until 2002. Problem is the trail is atypical on Arp's image of what you'd expect an asteroid would create. Still, the position matches and given the weird characteristics of 103 emulsions this can happen when a moving object is seen over a galaxy. Brian Skiff suggests reciprocity as the reason. I disagree in a way. With 103a emulsions I used true reciprocity is a time thing. When first hit by light the film is "fast" but slows down as further photons hit that part of the film. Since the asteroid is moving I don't agree that's what's happening here. I've used 103a emulsions and they have another effect. They can be sensitized by flashing with light prior to exposure. This is a very sensitive process. Too much and it fogs the film, too little and no effect. Getting it right is difficult and temperature sensitive. I used to use the process so am well aware of it. I think the trail peters out away from the

galaxy because the galaxy itself "flashed" the film. The trail appears slightly curved but this is due to an illusion since the trail is stronger on the side with more "flash" from the galaxy. In any case the literature will need to be changed and a footnote added to Arp's catalog. Even though I only got the ball started it was a fascinating experience.

Below is the email I received from Jeff Knipe. Since then I've learned from him that this will be announced at the January at the AAS meeting.

Dear Rick,

Dennis Webb first brought to my attention your observation of the curious incident of the galactic spike that did not appear in Arp 192, and so first off, we greatly thank you. I apologize for not getting back to you sooner. An answer, however, was not readily forthcoming, as you will appreciate. It has taken a lot of footwork and image processing, not a little computation and measuring, and some serious archival mining-in fact, all the way back to Arp's original observing log. But we now have an answer as to why this feature appears to have vanished. It was an asteroid, minor planet (84447) TU 240, in fact. According to Brian Marsden of the SAO, it was discovered by NEAT from their Haleakala site on 6 Oct. 2002. It is not an NEO but a main-belt asteroid with $a = 2.5$ AU, $e = 0.02$, $i = 10$ deg. Prediscovery observations of this asteroid have been noted in 2000 (Catalina and LINEAR), as well as a single ESO image on 1 Mar. 1992. But, according to the digitized log book of Arp's Atlas observations (and just locating this took nearly a month) the Atlas image, taken on 19 Feb. 1964, is the earliest known prediscovery image. It is astonishing that for forty-five years, this feature was thought to be part of the structure of this peculiar galaxy. You may be pleased to know that I sent Chip a note congratulating him on discovering an asteroid. He was very much interested in this little mystery, but I think he was hoping for a more exotic outcome.

Many of the astronomers I discussed this with (and there were at least ten) considered that the spike might be an asteroid, given 192's position near the ecliptic plane. But others argued that it did not look like an asteroid track, in that it appears to fade at its greatest distance from the galaxy, which is more characteristic of a bridge or tidal tail, and appeared slightly curved. All agreed, however, that, since the feature no longer exists, it couldn't be something intrinsic to the galaxy. At that distance (90 Mpc), its length would have to be on the order of many kpc, and a structure like that wouldn't evaporate within 45 years' time. Because the spike looked like something other than an asteroid, some astronomers speculated that it could a flaw in the emulsion or some sort of artifact. Had it been any of the latter, we would have had to examine the original plate. Fortunately, we did not have to do that because the original plates cannot be located. According to Chip, they should be locked in a steel vault in either the basement or attic of the Carnegie Observatories' office in Pasadena, but apparently they are not there! This is another mystery.

Brian Skiff suggests that the fading of the trail is what you might expect from reciprocity-failure in the emulsion, which makes sense given that the asteroid was in retrograde, thus its track began over the galaxy when the emulsion was fresh and "petered out" northwest after 40 minutes when the emulsion grew "tired." Some of the spike's apparent structure, too, could have come from emulsion effects. The trail is stronger while it is on top of the galaxy simply because the galaxy (or the galaxy + asteroid) has bumped up the background and hence the track has greater density.

The slight curvature is more problematic. Skiff thinks it may be due to field rotation, something you are, no doubt, very familiar with. If the guide star is on the edge of the field (the one at the bottom of the Arp plate is $V = 15.09$ and would have made a tempting guide star), the center of the field ends up rotating a bit during a "perfect" exposure. It could also be due to a slip in the guiding using the slow-motion buttons on the hand paddle. But I cannot believe Arp would be so slipshod in his guiding. (After all, Arp learned everything he knew about long-exposure guiding from none other than Walter Baade!) It is my belief that the slight curve is an optical illusion caused by the fizzled out track "blending" with background stars and/or other sources. If you look closely at the image with a magnifying glass, you can actually see where the dark track transects the bulbous part of the galaxy. If you lay a ruler across the whole thing, the track is straight.

Below is the daily ephemeris of where this asteroid would have been at the time the image was made. It was prepared by Marsden.

(84447)	a,e,i = 2.52, 0.02, 10			Elements MPO143061				
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1964 02 17	10 38.90	+17 46.5	1.499	2.476	169.1	4.3	19.0	
1964 02 18	10 38.06	+17 56.2	1.498	2.476	169.8	4.1	19.0	
1964 02 19	10 37.22	+18 05.8	1.497	2.477	170.3	3.8	19.0	
1964 02 20	10 36.36	+18 15.3	1.496	2.477	170.7	3.7	19.0	
1964 02 21	10 35.50	+18 24.8	1.496	2.477	171.0	3.6	19.0	

The coordinates given in the Atlas for Arp 192 are: 10 35.4 +18 17. Very close indeed, considering Arp's coordinates are epoch 1970.

There's a lot more I could tell you about this adventure-the frustrating searches for archival images, the librarian at Caltech who couldn't have cared less, the many iterations of image processing, and the back-and-forth discussions I had with Dennis and all the astronomers, but that would make for a long email indeed. You may congratulate yourself on noting that something was (literally) amiss and thus contributing to galactic literature. Thanks to your keen observation, all the catalogs will now have to be updated! I have proposed presenting a poster paper on this at the upcoming American Astronomical Society meeting in D.C., and Brian and I have also discussed writing a joint paper for either The Observatory or the Journal of Astronomical History and Heritage, but all this remains to be seen. If nothing else, resolving this mystery was enough fun for me!

If you have any other questions, please do not hesitate to contact me or Dennis.

Sincere regards,
Jeff Kanipe

<http://www.cosmicconnectionbook.com/index.php>
<http://www.willbell.com/HANDBOOK/arp.htm>

The galaxy pair appears to be about 300 million light-years away. Both galaxies are classed by NED as Sb which seems a bit surprising as well.

There are two fuzzy patches east and a bit below Arp 192. I see the first barely showing in the SDSS image, the bigger and brighter one further east is out of that frame. If not for the SDSS image I'd have thought these some sort of reflection. I get them occasionally but they look somewhat different than these. I still don't know if they are real or not but suspect they are. I can't find any identity for them however. Are they tidal pieces from Arp 192, separate galaxies of some sort or galactic cirrus? I just don't know. They are in no catalog I can find.

There is a galaxy cluster of about 15' diameter in the image, ZwCl 1034.8+1820. It is centered about 1 minute NE of the brightest star SE of Arp 192. Few galaxies are there but there's one clump to the NE of this position and another below it running off the bottom of the image. A scattering of galaxies connects the two regions. This may be the cluster. It is listed as having 103 members but no distance.

The very blue galaxy just north of the star is CGCG 094-098 at 300 million light-years. Even though this area has been covered by the SDSS nothing else in the image has a distance estimate.

It's quite ironic (though not unexpected) that my image shows two asteroids both with about the same inclination as Arp's "spike". This is because Arp 192 lies well within the asteroid belt's position in the sky. The bright one is

(11031) 1988 RC5 at magnitude 18.1. The dim one above and slightly right of it is (114750) 2003 HP40 at magnitude 19.2 That's a bit dimmer than the predicted magnitude of Arp's misidentified asteroid.

Prior to his catalog Arp was a "normal" astronomer who followed the main path that red shift was a distance measurement, newly discovered QSOs were distant objects, the big bang happened etc. But after the catalog he changed. It appears the change was due to his idea that some peculiar galaxies, those in the middle of his catalog, were likely ejecting material including QSOs. He slowly changed to what most would likely call a "crackpot" astronomer throwing out virtually all his basic beliefs and replacing them with his rather unorthodox views. I can't help but wonder how much this particular "spike" might have played in this "conversion." Would his change of course even happened if he knew this was an asteroid? How would his future have been changed if he'd just taken a second image to confirm it? Maybe not at all. But I can't help wondering.

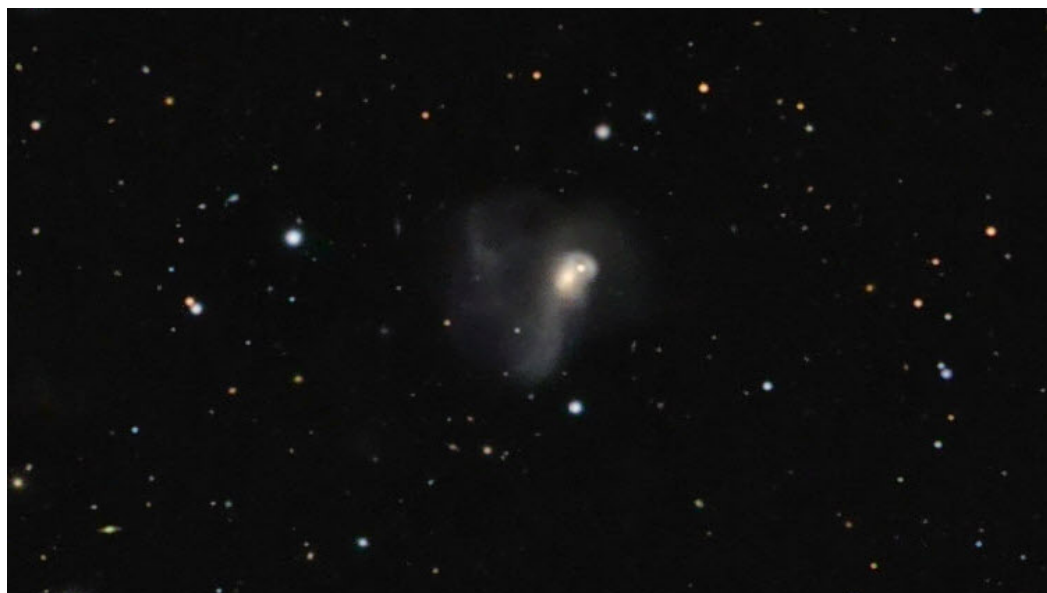
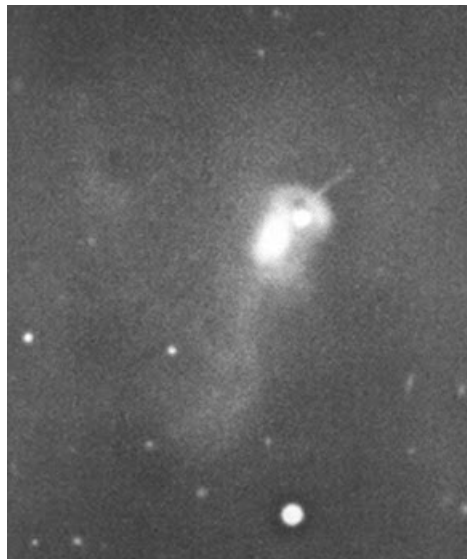
SDSS http://cosmo.nyu.edu/hogg/rc3/NGC_3303_UGC_5773_ARP_192_irc_clean.jpg

Arp's image with the false "spike":

http://nedwww.ipac.caltech.edu/level5/Arp/Figures/big_arp192.jpeg

14" LX200R @ F/10, L=8x10' RGB=2x10'x3, STL-11000XM, Paramount ME

All this brings up the question; Did I discover an asteroid by not imaging it when I didn't intend to image it in the first place?





THE *Prairie*
Astronomy
Club

Amateur Astronomy --
A Hobby as Big as the Universe

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: **Regular \$30/yr, Family \$35/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585.** For other club information, please contact one of the club officers listed to the right. Newsletter comments and articles should be submitted to: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or mark@dahmke.com,** no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

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Club Observing Chair	Jim Kvasnicka (402) 423-7390 jim.kvasnicka@pfizer.com
Outreach Coordinator	Dave Churilla, 467-1514 weber2@inebraska.com
Newsletter and Website Editor	Mark Dahmke (402) 475-3150

The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585

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Next PAC Meeting
TUESDAY
October 27, 2009
7:30 PM
Hyde Observatory