



## Supernova Search Update

by Anthony J. Kroes

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SUPERNOVA 2005ms IN UGC 4614

T. Puckett and A. Kroes report the discovery of an apparent supernova (mag 17.9) on an unfiltered CCD frame taken with the Puckett Observatory 0.50-m automated supernova patrol telescope in Ellijay, GA, on Dec. 27.30 UT (and confirmed at mag 17.1 by J. Newton, Portal, AZ, on frames taken on Dec. 29.40 with a 0.35-m reflector). The new object is located at R.A. = 8h49m14s.34, Decl. = +36o07'47".9 (equinox 2000.0), which is 25".0 west and 35".9 north of the center of UGC 4614. SN 2005ms is not present on frames taken by Puckett on Dec. 11 (limiting mag 19.2)

NOTE: These 'Central Bureau Electronic Telegrams' are sometimes superseded by text appearing later in the printed IAU Circulars.

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2005 December 29

(CBET 343)

Daniel W. E. Green

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Back in our March issue, I told you about a new project that I was working on – a collaboration of individuals searching for supernovae, the Puckett Observatory Supernova Search (POSS). At that time, I was a newbie to the team and the field in general, and the team was going through a phase of rapid expansion. Here is an update on what has happened during the course of 2005.

The team now comprises about two-dozen members from around the globe. Tim Puckett is still the 'one-man-show' running it all from his telescopes in Georgia (spending about 40 hours a week at it on top of his regular job!) but the team is also now scanning data collected from a member observatory in Canada (a 20" scope). We also have three new sites currently in testing in California, Arizona and South Africa.

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### NPMAS Club Loaner Telescopes

NPMAS members may use, free of charge, for a one month, one of the two club telescopes available. For more details, please contact Gerry Kocken, *Properties Chair*, at 920-336-8594.



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# December Meeting Minutes

by Amy Hannon-Drew

The December meeting took place on December 14th at the Neville Public Museum. The bad weather kept many club members home, but eleven members decided to attend despite the poor weather. There were no new members in attendance. The calendar for 2006 was the main topic of discussion. Gerry Kocken gave the attendees the final schedule.

Next year includes some new additions to our monthly agendas, including 'Ed's Corner' which will be a short presentation by various club members aimed at the beginner. We will be going on a field trip to Yerkes this year in June, and in July we are having our annual NPMAS club picnic! Of course there are the usual public observing events, Camp Uni, and Astronomy Day also. You can get all the details when the schedule is posted on the web, or at the next meeting.

Our January meeting will be the Holiday party at the Out-o-Town Club, and February's meeting will be a chance to show off all the astro-goodies you got for Christmas. Gerry gave a slideshow presentation on all the star parties from the past. It was a fun look back at all the fun. We also had a discussion on moving the Messier Marathon to a new location. There are a few new places being discussed including Bear Paw Boy Scout Camp, Fallen Timbers, and a location in Valders. See you at the party in January!

## Supernova Search CONTINUED From Page 1

This increase in data collection points allows the team to increase the amount of sky covered each night, and thus the number of supernovae discovered. In addition, one site that is clear can image or do reshoots while another observatory somewhere else is clouded out. If everyone is clear we can now collect images of over 3000 galaxies a night.

The team has picked up 123 supernovae since its inception, including 36 in the year 2005, our best year yet! The best news is that one of those supernovae has my name on it alongside Tim's as co-discoverer! On December 27, Tim imaged galaxy UGC 4614. Later the next day, I scanned that image along with many others. Like many images I had scanned over the last year, there was a blip that looked like a faint star on the 'after' image that was not on the 'before' image. A common occurrence, but usually nothing.

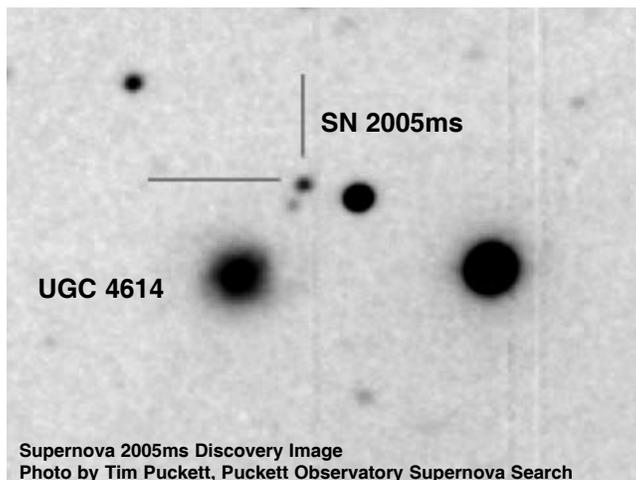
I did all of our usual checks: Is it a cosmic ray hit or hot pixel on the CCD? Is it a recent supernovae that is already known? (I've 'found' quite a few of those!) Is it an asteroid? Is it a star that is visible in the original blue, red, or IR Palomar Sky Survey plates? It wasn't any of those, so I marked it and sent it back to Tim as a 'suspect'. He checks the suspects again himself, and decides which ones look good enough to take an image of on a second night. The idea here is that if it was a cosmic ray hit, hot pixel, or asteroid, it won't be on the new image, or if it is, it won't be in the same spot. A supernova will remain in the same spot.

Team member Jack Newton took the reshoot because Tim was clouded out that night. Jack has a remotely controlled observatory in Arizona

that Tim can access. The reshoot showed that blip in the same spot, but even a bit brighter. A supernova on the rise! Tim prepared an announcement and sent it to the proper authorities - the International Astronomical Union (IAU). They verified that it was a valid claim, and assigned it a designation: Supernova '2005ms' with Tim and I as co-discoverers.

Further follow-up and spectrographic analysis by one of the big observatories has classified it as a Type Ia supernova. This is the kind of supernova where a white dwarf star orbits close to a larger star. The gravity of the white dwarf is strong enough to pull in material from the larger star. Similar to a nova, where the material builds up a thin layer, then ignites and burns away all at once, here the material builds up, but too thickly, too quickly, and has enough mass that it compresses the core of the white dwarf and causes a runaway reaction. The resulting explosion completely destroys the white dwarf itself (and likely the companion as well!).

We are now into 2006, and the team has already bagged its first supernova of the new year ('2006B' by teammate Giovanni Sostero.) Things are looking good, and the scanning is fast and furious. I'll let you know the next time a blip shows up on one of my scans!



Supernova 2005ms Discovery Image  
Photo by Tim Puckett, Puckett Observatory Supernova Search

## Meetings, Events & Star Parties

### January 3

Quadrantid Meteor Shower  
Peak

### January 11

NPMAS Holiday Party

### January 21

NEWSTAR Holiday Party

### Looking Ahead:

### March 25

Messier Marathon  
Location TBA

### April 21-22

NCRAL 2006  
Appleton, WI

## Planet Watch For January

by Wayne E. Kuhn

**Mercury** will be visible in the morning sky early in the month but will quickly sink out of sight. It will shine at magnitude  $-0.7$  and be  $5.1''$  in apparent size.

**Venus** will be low in the evening twilight at the beginning of the month but will quickly disappear as it passes in front of the sun. It reappears in the morning twilight during the last 10 days of January. It shines at magnitude  $-4.4$  and is  $53.8''$  in apparent size.

**Earth's Moon:** First Quarter Moon is on the 6th, Full Moon is on the 14th and Last Quarter Moon is on the 22nd. New Moon this month is on the 29th.

**Mars** remains in Aries and is high in the southeast at sunset. It shines at magnitude  $-0.2$  and be  $10.5''$  in apparent size.

**Jupiter** is in Libra and rises at about 3:00 AM. It shines at magnitude  $-1.9$  and is  $34.5''$  in apparent size.

**Saturn** will reach opposition on January 27. By 10:00 it will be 30 degrees above the horizon, high enough to permit good observations through a telescope. It shines at magnitude  $-0.2$  and is  $20.4''$  in apparent size.

**Uranus** is in the constellation Aquarius all year. It shines at magnitude 5.9 and is  $3.4''$  in apparent size.

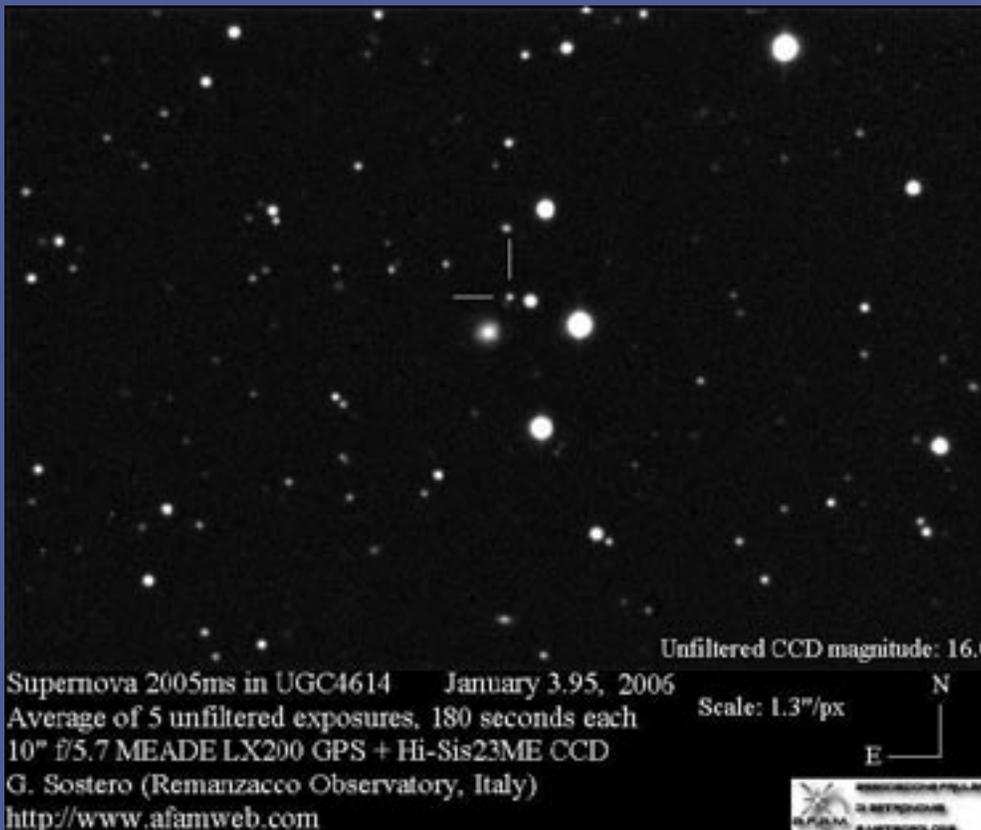
**Neptune** is in the constellation Capricorn. It dimly shines at magnitude 8.0 and is  $2.2''$  in apparent size.

**Pluto** is in the constellation Serpens Cauda and was at opposition on June 14. It shines at magnitude 14 and is  $0.1''$  in size.



## Astronomy Photo of the Month

### Supernova 2005ms



Unfiltered CCD magnitude: 16.0

Supernova 2005ms in UGC4614 January 3.95, 2006

Average of 5 unfiltered exposures, 180 seconds each

10" f/5.7 MEADE LX200 GPS + Hi-Sis23ME CCD

G. Sostero (Remanzacco Observatory, Italy)

<http://www.afamweb.com>

Scale: 1.3"/px

N

E



# Solstices

by Gary Baier

On the summer solstice last June the moon was full and also near its lowest point from the ecliptic (south of the ecliptic as seen from here in Wisconsin, see image below, right) The ecliptic is the path of the sun through the sky. Now a half of an orbit later we see the sun traveling very close to the southern horizon (see image below, left) . This time the moon was full a week before the solstice but it still produces an interesting effect.

On the morning of Dec 18 the sky was clear and the moon was only three days past full. It was directly south in the sky and at its highest point for the night around 1:30 am. The moon was very far north of the ecliptic at this time, near the star Pollux in the constellation Gemini. The sun would be a only few degrees farther south of this location on July 10. You may remember a few years ago the sun crossed the ecliptic on Dec. 25. (A solar eclipse) The next day I took some images of the sun at noon when it was in the south at its highest point for the day but near its farthest south for the year.

Compare the images below from December (left) and June (right). Each shows the sun or moon in the southern sky at its highest point in the sky for that day. The sun and moon appear to change places in the sky. Because the moon doesn't exactly follow the path of the sun (its orbit is tilted about 5 degrees from that of the ecliptic) the full moon can appear to be higher or lower than normal. Try this observing project on your own over the next year.



◀ Winter Solstice

Summer Solstice ▶  
(reprinted from our July  
Issue for comparison



# First light - William Optics 28mm UWAN Eyepiece

by Chris Schroeder



I used both my Hardin 10" F/5 Dob and the WO ZenithStar 80FD F/6.9, A.K.A. The Red Temptress. For comparison eyepieces I used my TeleVue 22mm Panoptic, Meade 4000 14mm UWA and Televue 11mm Nagler T6. Weather conditions: Temp 10°F, winds calm, humidity 79%, haze, seeing average, and transparency poor. I pulled my Dob from the shed and set the refractor next to it about 1-1/2hrs before viewing.



With the haze, snow cover, and light pollution, any faint DSOs (Deep Sky Objects) would be poor targets, but star clusters would be bright enough, so first up was M-45, the Pleiades, a nice bright star field filling most of the FOV (Field Of View) in the Dob. No nebulosity was visible, and there was some coma visible near the last 10% of the FOV. In the 80FD, I saw pinpoint stars to the edge, although with a FOV of 4.14°, I had to pan back and forth to actually get the stars near the edge.

Now onto something that would fill the FOV with stars so I could compare the different EPs and pan the scope around to get a feeling for any pincushion. The double cluster NGC 869 & 884 fits the bill. Being near zenith at the time was a bonus for a clearer view.

I used just the Dob for this because I didn't have enough dew heaters to keep both scope frost-free. First up: the new UWAN. Both clusters fit in the FOV with plenty of stars near the edge. Like M-45, there were nice sharp stars, but some coma showing up at the last 10% of the FOV. I got exactly the same type of view with the Panoptic. I'm impressed -the UWAN with its 82° AFOV versus the Panoptic's 68° AFOV and they had similar views. With both the Meade and the Nagler, I had sharp stars to the edge with no noticeable coma. As to pincushion, both the Panoptic and the UWAN were again similar, and neither was bothersome to me.

Now on to something bright: Mars. While the UWAN is not a specifically a planetary eyepiece, I wanted to check for ghosting, light flare, and false color. I noticed none of these effects while viewing mars, nor the stars Rigel and Betelgeuse.

This is a big EP, and it's heavy - about 35oz. Although I didn't have any problems balancing it on my Dob, I sure did on my little refractor! The eyecups screw up and down inside the barrel. Eye relief was nice, I could see the entire FOV with



the cup screwed all the way down and my glasses on. For no eyeglass viewing, keeping the eyecup unscrewed up about half way was best for me, with no kidney beaning. The eyecup too is huge, my whole eye socket seems to fit inside, but even with my long eyelashes, they didn't touch the glass. Overall I found the UWAN comfortable to use for extended periods. After adjusting the eyecup for the proper eye relief, I could just lean against it.

I've never looked through the 'Holy Hand Grenade', the TeleVue 31mm Nagler T5, so I can't compare the UWAN to it, but this EP is definitely a keeper. Even though I bought it to use in my Dob, I can't wait to try it out in my SCT. Now maybe a Paracorr may be in my future

# New Astronomical League Observing Programs - Update

by Anthony J. Kroes

Last month we detailed the info we had on the new observing programs just put out by the Astronomical League. We had the full scoop for the Lunar II program, but were missing the actual observing list for the Planetary program and were missing \*all\* of the details of the Open Cluster program as it had not been published to the League web site yet. Well, the Open Cluster club is now up, and the Planetary Nebula program book that I had on order came in, so let's take a look....

For review, the Planetary Nebula Club is a program designed for visual observers or astrophotographers. The list is composed of 110 planetary nebula. For pin and certificate, visual observers must view all 110 objects. Astrophotographers must nab a minimum of 90 of the objects on the list. The program rules are listed on the League's web site, but the actual list of nebulae is not. For this program, you must buy the book from the Astronomical League for \$12.00 (plus \$1.95 shipping).

The book details the rules of the program as per the web site, including a 'Basic' version of the program (certificate only) where the observer only needs to view 60 of the 110 listed objects - a great start for beginners or smaller scopes. There is information about planetary nebula physics, classification, history, observing tips, and the master list of all 110 objects (copyright precludes me from printing the list here). Following that we have a detail of each object, with description, stats, and image. Most images are from the Palomar Sky Survey, the rest were taken by amateur astrophotographers.

The object selection looks to be quite varied, with objects ranging from the well-known to the 'who-ever-heard-of-that?' category (the 'Headphones nebula'? you gotta be kidding me!!). They also range in brightness and size from big and bright objects like the Dumbbell and Ring nebulae to tiny little blips you would swear were just fuzzy stars, if you even see them at all. That's the beauty of this program - variety! It should be a real test of one's observing skills to complete this one visually. I plan on breaking out the eyepieces and giving the ol' pupil a stretch on this one myself, and I recommend you do the same!

The Open Cluster Club works from a list of 125 objects (all details and the list now available on the A.L. web site). Program completion requires viewing all 125 clusters. In addition to the 'usual' info and written description, this program follows in the footsteps of the Globular Cluster program and requires an analysis and classification of the type of cluster that each is. Details of the rating scheme as well as some example are on the web site. The observer is also required to draw 25 of the clusters.

While some don't think open clusters are as spectacular as nebulae or galaxies, they really do have a quality and variety all their own and are very worthwhile to view. This would be a great program to do in conjunction with the Globular and/or the Planetary Nebula program giving you a wide variety of objects and a good selection of things to view across the year.

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Lynn Ward

Club Picnic Katrina DeWitt

October Field Trip Katrina DeWitt  
Ty Westbrook

## NPMAS Observing Sites

NPMAS members have access to three observing sites located on private land and belonging to members of our club.

**Parmentier Observatory** — largest private observatory in WI housing a 30" classical Cassegrain. Members may view through the 30" or bring their own scopes and set up in the field below.

Observatory Number: 920-845-5626

Ron Parmentier Home: 920-336-5878

**Crivitz Observing** — private residence of Dave & Carol Jorgenson.

Located in the Northwoods of Wisconsin on 100 acres of land, this site offers some of the darkest skies around. The field is equipped with electricity and a cabin is available for use. Call ahead to make arrangements.

Dave & Carol Jorgenson Home: 715-757-3296

**Cedar Drive Observatory** — private residence of Tony Kroes and Tara Adsit. Located in Pulaski on 10 acres of land. Members welcome anytime, but please call ahead to make arrangements.

Tony Kroes Home: 920-822-4959

# January NPMAS Meeting

January 11, 2006

**Holiday Party**  
Out-o-Town Club

6 PM - ???

White Elephant Exchange

Door Prizes



**The Eyepiece**  
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## January 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1</b>	<b>2</b>	<b>3</b> Quadrantid Meteor Shower Peak DPAS Society Dinner	<b>4</b> Earth at Perihelion	<b>5</b>	<b>6</b>	<b>7</b> First Quarter Moon
<b>8</b>	<b>9</b>	<b>10</b>	 <b>11</b> Meeting/ Holiday Party	<b>12</b>	<b>13</b>	<b>14</b> Full Moon
<b>15</b> Stardust Capsule Returns to Earth	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b> NEWSTAR Holiday Party
<b>22</b> Last Quarter Moon	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>
<b>28</b>	<b>29</b> New Moon	<b>30</b>	<b>31</b>			
					Camp U-Nah-Li-Ya Winter Weekend	