

# Galactic Gazette



Member of the Astronomical League

A Newsletter of the Kiski Astronomers

## It's Been Anther Great Year!

Hi and welcome back to the end of the Fall session of the Kiski Astronomers.

Before I go any further, I would like to welcome our newest member, Mathew Maskas, to our club. He attended some of the Kunkle star parties this summer and officially joined in September! Again, Welcome!



parties that the weather cooperated with us. Club turnout was outstanding. The women had some fun playing Bocce Ball while the men sat around talking astronomy.

We have had elections for next years officers with myself as your president elect! We've also held our

It's been a busy Summer and Fall, at least it has been for me!



If you didn't attend any of the regional star parties, Larry McHenry has done a great job on keeping the members informed

on the doings of them all! And we have had a few members that attended walk away with door prizes, and not just the nickel and dime items. We're talking about grand prizes! Way to go!!!! And yes, I'm jealous!

It's been a busy time for the club also. We held our summer picnic at Kunkle Park in August followed by one of the few public star

Christmas party on December 13th at the *Garden Gate Restaurant* off Rt. 422 near Butler. The party began at 5pm and was better than last year's! The food was great and our waitress was wonderful. Everyone seemed to have a great time! I know I did! Afterwards a few of us stopped at Gary and Donna's for more holiday festivities and good old fashion socializing with great friends!

I know this time of year isn't the best for observing but if you can try to get a little in when we get a break in the weather! We've had some great nights here and there! We were treated to the conjunction of Jupiter and Venus at the end of November shining brightly in the western evening sky! The end of October, I pulled an all niter on a Thursday night/Friday morning! The humidity was very low and the sky was steady. The only down

side was it was a bit chilly! Oh heck, it was just down



Kunkle Park May 10, 2008

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## It's All Clear Now !

Adapted from Glenn Chaple's article "Clearing the air about seeing vs. transparency" Astronomy, November 2008

I thought this would be a good time to visit the differences between "Seeing" and "Transparency" since we are heading into those clear, crisp, (not to mention, cold) winter nights! I've heard and seen what I thought were flip flop versions of night sky conditions that made me go back and revisit these definitions so I have it straight! There are different scales and techniques for rating the night sky but this *will* get you in the ballpark when planning your observing session.

Those of us who have looked through any kind of optical instrument have found that they play second fiddle to that fickle element that starlight first encounters: Earth's atmosphere. The ever-changing ocean of air surrounding our planet can be calm or turbulent, clear or murky — dramatically affecting what we ultimately see at the eyepiece.

The steadiness of our atmosphere is known as "**astronomical seeing**." Good seeing is paramount for sky objects that require high power, like the Moon, the planets, and narrowly separated double stars. If the air is calm, you can use the maximum possible magnification your telescope will allow. Throw in some atmospheric turbulence, however, and you'll experience an undulating blob of light.

A slew of factors contribute to seeing conditions, from global weather patterns to air currents inside the tube of a telescope that hasn't yet adjusted to the outside temperature. Heat waves rising from the ground after sunset or from dwellings on cold evenings can also produce annoying ripples.

Of the various scales devised to rate seeing, I find the 1 (terrible) to 5 (ideal) particularly useful for basic backyard astronomy. You can get a "ballpark" estimate of seeing simply by looking up and noting how rapidly stars twinkle.

A more precise way to assess seeing conditions is to look at the image of a bright star under high magnification. If it "boils" incessantly, rate the seeing as 1. If the image is crisp and surrounded by unwavering concentric circles (diffraction rings), the seeing is a 5.

The term "**transparency**" describes the night sky's clarity and darkness. Hazy skies are the products of atmospheric water vapor (common on warm summer nights) or impurities like smoke, dust, or pollen. Even if the night air is clear and dry, stray light from the rising or setting Sun, the Moon, or annoying artificial light can compromise transparency.

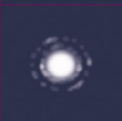
A simple way to evaluate transparency is to gaze at a portion of the sky roughly halfway up from the horizon and note the whole number magnitude of the faintest star visible. This produces a scale from 0 (totally

overcast) to 6 (the faintest star traditionally visible from a dark-sky location). In remote areas, the scale can even extend beyond 6. If you rate the transparency as 7 or even 8, you're in the Australian Outback, mate!

The angle above the horizon of the object you're observing also affects seeing and transparency. From the zenith (overhead) to the horizon, transparency decreases (atmospheric extinction) because you're looking through a thicker column of air. Seeing similarly suffers.

It's an astronomical fact of life that good seeing and transparency rarely go hand-in-hand. A night of exceptional seeing is often accompanied by poor transparency, and vice versa. *In mid latitudes, we experience some of the best seeing during the warm, hazy nights of summer, while cold winter evenings bring transparent, but often turbulent, skies.* During the transition periods of spring and fall, we can get a delicious mix of either.

**So the bottom line is, If the seeing is good, target the Moon and planets or close double stars. Transparent skies give you a chance to ferret out faint galaxies and/or nebulae.**

Rating	Scale	Image
Bad	1	
Poor	2	
Average	3	
Good	4	
Excellent	5	

*This chart shows what a point source looks like through a telescope under different "seeing" conditions. When the atmosphere is unsteady, the star's image becomes larger and more blob-like. Astronomy: Jay Smith*

Denny





# Travels on the Celestial Sphere

## Galaxies in Canes Venatici

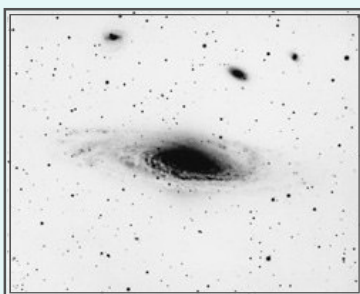
Glen Sanner and George Robert Kepple

October 2008

This month we want to show you some special objects that are best viewed when they are high in the evening sky. We will discuss a couple of galaxy groups in Pegasus and a member of our local group of galaxies. As you all know Pegasus is the Winged Horse who arose from the sea foam when Medusa's blood touched it after her head had been severed by Perseus. The great square of Pegasus is easily found near the zenith and it marks the front quarters of the horse that appears upside down as we see it. Near the Lacerta-Pegasus border we find our first seven objects.

NGC 7331 RA 22h 37m 04.9s Dec +34° 25'  
Type SA(s)b I-II Magnitude 9.5 Surface Brightness 13.3

This galaxy is found near the front hooves of the brightest in Pegasus. It is elongated N-S. It has a nucleus and if enough lanes may be seen as well. sprinkled though out its six fairly faint companions, two on its western side, east are:



NGC 7335 RA 22h 37m 19.5s Dec +34° 27'  
Type: SA(rs)O+ Magnitude 13.4 Surface Brightness 13.0

This is the brightest of the four eastern companions and is 3.5' NE of the core of 7331. It is obvious without averted vision and is oval shaped.

NGC 7336 RA 22h 26m 22s Dec +34° 29'  
Magnitude 14.5 Surface Brightness 13.1

This is a small circular spot using averted vision 2' NNe of 7331.

NGC 7337 RA 22h 37m 26.8s Dec +34° 22'  
Magnitude 14.4 Surface Brightness 14.0

This is a faint circular spot 5'SE of 7331 appearing to be a double with a faint star 10" to its SE.

NGC 7340 RA 22h 37m 44.4s Dec +34° 24'  
Type E? Magnitude 13.7 Surface Brightness 13.0

This galaxy appears as a circular spot of light 8' E of 7331. It is not particularly difficult to see due to its surface brightness.

The two companions to the west of 7331 are:

NGC 7327 RA 22h 36m 34s Dec +34° 30' Mag 15.3

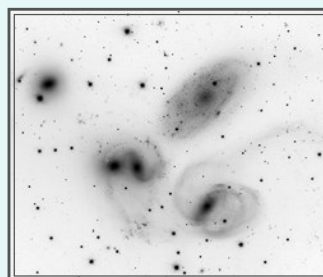
This galaxy appears as a circular spot 8' NW of 7331. This object can be mistaken for a fuzzy star. A star may be superimposed in front of it.

MCG +06-49-044 RA 22h 36m 22.9s Dec +34° 33'  
Type Sb Magnitude 15.4 Surface Brightness 13.7

This galaxy appears as a small oval patch of light using averted vision 11' NW of 7331.

*NGC 7331 group Copyright NOAO/AURA/NSF*

Located 28' SW of NGC 7331 we find another galaxy group, Stephen's Quintet. This is a 4' diameter group of five galaxies. They range in 13.6. They are close together discern individuals in the NGC numbers, RA, Dec, and but we will not try to describe you. If you can find NGC nearby. Large aperture is not helps. With a nice wide field easily able to see both the NGC 7331 group and



Stephen's Quintet with very modest aperture. The members of Stephen's Quintet are:

NGC 7317 RA 22h 35m 52.1s Dec +33° 56' Mag. 13.6

NGC 7318A RA 22h 35m 56.7s Dec +33° 58' Mag 13.4

NGC 7318B RA 22h 35m 58.7s Dec +33° 58' Mag 13.4

NGC 7319 RA 22h 36m 04.1s Dec +33° 58' Mag 13.1

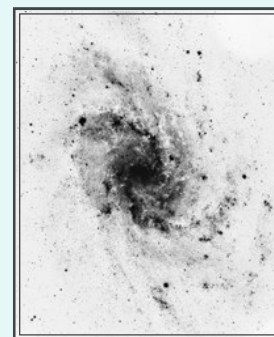
NGC 7320 RA 22h 36m 03.4s Dec +33° 57' Mag 12.6

*Stephen's Quintet Copyright NOAO/AURA/NSF*

In the constellation Triangulum, the Triangle, we find our last object, Messier 33. This galaxy is known as the Pinwheel Galaxy and is a member of our Local Galaxy Group. It is 2.4 million light years distant and was discovered in August of 1764 by Messier who described it as a "whitish light of almost even brightness."

M33 (NGC 598) RA 01h 33m 51.3s Dec +30° 40'  
Type SA(s)cd II-III Mag 5.7 Surface Brightness 14.2

This galaxy is a loosely-wound spiral galaxy with a great deal of detail when viewed with enough scopes it will appear uneven in mottling toward its center. With spiral structure appear. Larger reverse-S pattern spiral with a With increased aperture over a appear with direct vision and the become spectacular. Globular with shimmering texture, truly a aperture telescope.



*M33 Copyright NOAO/AURA/NSF*

## 2009 Officers

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#### **Website:**

<http://home.comcast.net/~kiskiastronomers/kiski.htm>

#### **Club Email List server**

Open forum messages  
[kiskiastronomers@yahoogroups.com](mailto:kiskiastronomers@yahoogroups.com)

## The Meeting Schedule of the Kiski Astronomers

for the upcoming months will be Thursday  
at 7 PM:



January 8th, 2009

February 5th, 2009

March 5th, 2009

in the LGI Room at Kiski High School in the.

***See you there!***

2008

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right cold! I think it was about 36° at 5 in the morning. I did sustain a minor casualty, a little frost bite on the tip of my right index finger! Gloves and computers just don't work well together! Improvising a warm room in the observatory is looking like a real possibility now!

Forgive my lack of enthusiasm for putting out the newsletter. At the May meeting, we voted to make the newsletter quarterly instead of monthly. In this day and age of email, there isn't a whole lot to write about that isn't already been passed around on the internet. I've started this a couple times but family circumstances has again thrown me a curve putting this on the back burner. Plus I've taken to heart what someone had passed on to me ... don't let club business overshadow my partaking in the hobby that I love. So any event or clear nights that has come along I've tried to take advantage of it when I could!

FYI January's meeting will be held on January 8th since the first Thursday of the month is New Years day.

*Merry Christmas and the Happiest New Year!*

Denny



## The Galactic Gazette

is published & edited by  
Denny Hill

Contributions to the newsletter are greatly appreciated!

Please consider sharing your knowledge and experiences along with any expertise with me for future issues!

*This is your newsletter! Make it the best it can be!*  
Email your articles to me at [dhill955@alltel.net](mailto:dhill955@alltel.net)

**Thanks!**

## Useless Facts from People That Have Nothing Better To Do!

*How long would it take to walk a light year.*

*Popular Science Sept. 2008 by Jessica Cheng*

*Here's one of those pressing questions that I always wanted to know ... **NOT !!!** But someone out there that must have. Or they just didn't have a good topic to write about that month and used it for a filler ... like I'm doing now! Maybe it was one of those government studies! Enjoy!*

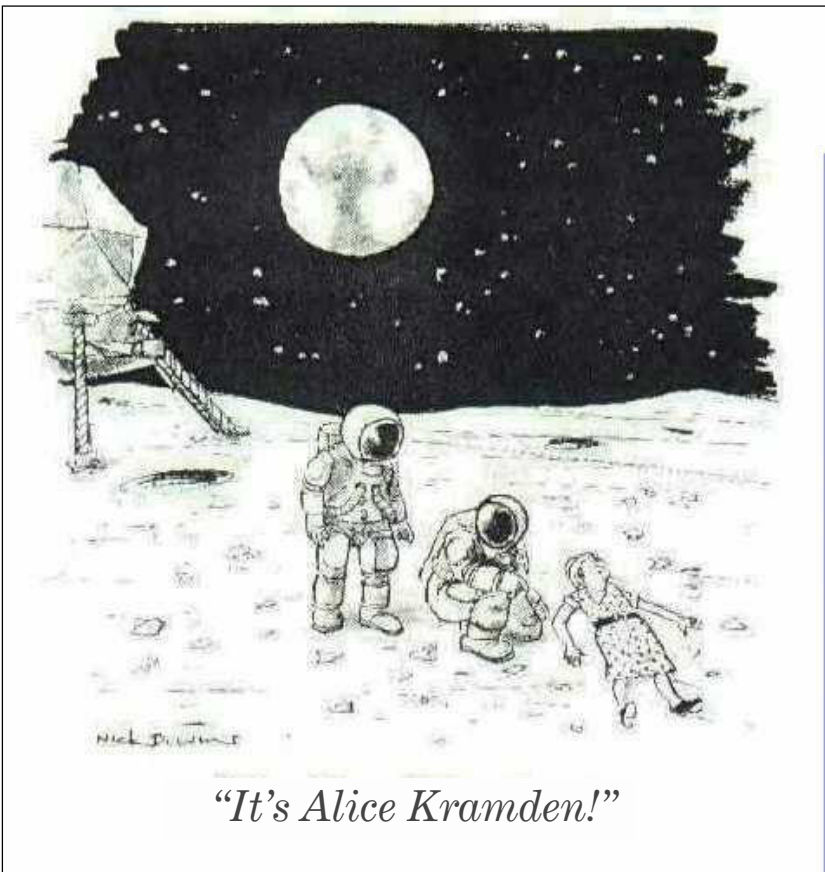
Now, if you started just before the first dinosaurs appeared you'd probably be finishing your little hike just about how.

Here's how it breaks down. One light year - the distance light travels in one year, used as the yardstick for interstellar distances - is about 5.9 trillion miles. If you hoofed it at a moderate pace of 20 minutes a mile, it would take you 225 million years to complete your journey (not including stops for meals or the restroom).

Even if you hitched a ride on NASA's Mach 9.68X43A hypersonic scramjet, the fastest aircraft in the world, it would take about 95,000 years to cover the distance. You'll need to bring a big bag too; walking such a distance requires substantial supplies. The average adult burns about 80 calories per mile walked, so you'd need two trillion *Power Bars* to fuel your trip. You'd also produce a heap of worn out shoes. The typical pair of sneakers will last you 500 miles, so you'd burn through some 11.8 billion pairs of shoes. And all that effort wouldn't get you very far, astronomically speaking. The closest star to the sun, Proxima Centauri, is 4.22 light years away.

## Galactic Humor!

*Submitted by Denny Hill*

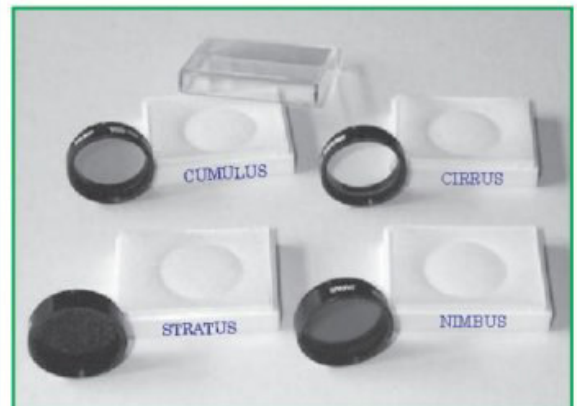


*"It's Alice Kramden!"*

No Respectable Astronomer Should Be Without

## CLOUD FILTERS

*Not Available in Stores*



For those wonderful viewing nights  
and public star parties  
when those irritating clouds just won't go away!

## FLY BY NIGHT ASTRONOMY SHOP

Graphic Created by Andy Oliver, [www.saaa.org](http://www.saaa.org)