

WESTERN NEVADA ASTRONOMICAL SOCIETY
 WNCFC Foundation (WNAS)
 2201 West College Parkway
 Carson City, NV 89703



Events Calendar

	SUN	MON	TUE	WED	THU	FRI	SAT
March			1	2	3 Last Qtr Moon	4	5 Star Party
	6	7	8	9	10 New Moon	11	12 Star Party
	13	14	15	16 BD of Gov Meeting	17 WNAS Meeting	18	19 Star Party
	20 Spring Begins	21	22	23	24	25 Full Moon	26 Star Party
	27	28	29	30	31		
April						1 Last Qtr Moon	2 Star Party
	3 Jupiter at Opposition	4	5	6	7	8 New Moon	9 Star Party
	10	11	12	13	14	15	16 Star Party 1st Qtr Moon
	17	18	19	20 BD of Gov Meeting	21 OP Board Meeting	22	23 Star Party
	24 Full Moon	25	26	27	28	29	30 Star Party

Dates to Remember:

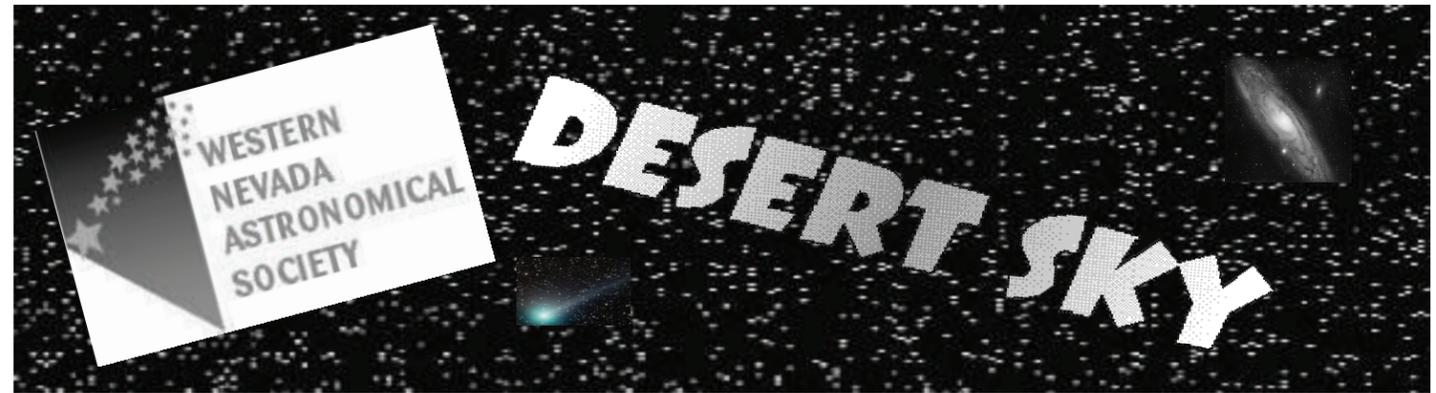
March, 2005

3rd Last Quarter Moon 09:38
 10th New Moon 01:12
 17th First Quarter Moon 11:20
 20th Spring Begins at 04:33 (Vernal Equinox)
 25th Full Moon 13:00

Mar. 17th WNAS General Membership Meeting 7:00 p.m.

April, 2005

1st Last Quarter Moon 16:52
 3rd Jupiter At Opposition
 3rd Change Clocks Forward at 2:00 am Sunday Morning
 8th New Moon 14:33
 16th Astronomy Day
 16th First Quarter Moon 07:39
 24th Full Moon 03:09



Volume 4, Number 2

March/April 2005

Message to the Membership

For all of those that have come up to the Observatory for our Saturday night Star Parties, you know the weather has played havoc on the viewing conditions since last August. Infact we've only had four or five Saturdays where conditions even permitted viewing the many wonders that winter has to offer. For all those that have ventured up to view the night sky on all those snowy, windy winter nights don't be discouraged, the Observatory volunteers still enjoyed your company and interest in astronomy. We encourage all those that missed one of

the few good nights of viewing to come up again, it looks like spring is here with it's warmer evenings, clearer skies and hopefully some of the best viewing conditions of the year. With spring comes the constellations of Leo, Virgo, Bootes, and a possible late night glimpse of Hercules.

As a reminder, we have a WNAS General Membership Meeting on March 17 at 7:00 pm. Frank Davis has graciously offered to give a talk on the Riverside Telescope Makers Conference, that should be very interesting.

Inside the Newsletter

Ask Jack	2
Objects in the Sky	2
Einstein - The Scientist	2
Huygens Probe	3
Imaging NGC 7635	3



WNAS Officers

President
 Roger Block
 roger.block@att.net
 Vice President
 Jack L. Davis
 jackldavisdo@excite.com
 Treasurer
 Red Sumner
 rmsumner@pyramid.net
 Secretary
 Red Sumner
 rmsumner@pyramid.net
 Newsletter Committee
 Elsie Dupree
 dupree@pyramid.net
 Newsletter Editor
 Brian Guerin
 zapkgbg@msn.com
 Webmaster
 Leland Wong
 llw1345@cs.com

Director-JCD Observatory
 Robert D. Collier
 collier@sncc.edu

WNAS web site:
<http://western-nevada-astronomical-society.com>

WNAS General Membership Meeting Minutes

Vice President Jack Davis opened the meeting at 07:00 pm on January 20, 2005

Items Discussed: The members present reviewed a number of items discussed at previous meetings. We looked at the progress on Roger Blocks suggestion that each telescope have a checklist for its operation, Jack Davis has completed the LXD-55 checklist and is working on the CGE-800 checklist. The Observatory is still looking for volunteers to operate telescopes, there are still a few of us. Progress on the Solar Dome is slow but moving forward, we decided to use the Apogee guide scope instead of the Takahashi (this later proved unworkable), and Gerald reported much progress on the domes electronics. The software for the radio telescope has been installed and is ready to start operations. We all commiserated on the bad weather we've been having (especially on Saturday nights) and we are still waiting for first light on the CGE-800.

New Business: All have agreed that we should consider special star parties on nights other than Saturday. We are extending an invitation to all members to attend the Operational Meeting, these meet on the months the General meeting does not. Members should call or email the WNAS Officers to confirm operational meeting days and times. AST courses involving the C-14 and spectroscopy will be given for 1 credit. A single credit class on the use of telescopes will also be given. Email Robert Collier for details.

Lecture: Robert Collier gave an excellent talk on Gamma Rays and Gamma Ray Bursts.

Ask Jack

This is the memberships column to ask questions about WNAS activities, the JCD Observatory and the field of Astronomy. Please submit questions to the Editor at www.zapkgbg@msn.com or at the next WNAS membership meeting on **March 17**.

Q: What is the difference between Seeing and Transparency?

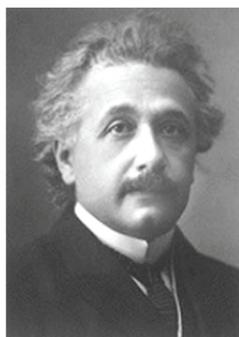
Seeing is determined by the steadiness of the atmosphere your looking up through, this steadiness is affected by temperature and air turbulence. Air turbulence is a major factor in the Reno/Carson area due to upper level winds flowing over the Sierra's. Turbulence can also be caused by very localized factors such as warm air rising over a roof or a driveway. If the driveway and house aren't bad enough, even a persons body heat can have an effect! Always remember to let your telescopes temperature equalize with the outside temperature, not doing this will cause tube currents within the telescope. The most obvious indication of poor seeing are twinkling

stars. Transparency is a measure of how bright the stars appear or how dark is it at night or even how blue is the sky during the day - transparency is equivalent to clarity. Factors that affect transparency are: localized light pollution, smoke, dust, moisture in the air, haze, smog and the moon are a few. Transparency can actually be measured quite accurately. The faintest star we can see naked eye is 6 magnitude. By looking up at stars with know magnitudes between 1- 6 we can determine the skies transparency.

Q: Is the Big Dipper a Constellation?

No, the Big Dipper is an asterism. An asterism is any prominent star pattern that isn't a whole constellation. There are 88 official constellations and hundreds of asterisms. If you notice a star pattern that reminds you of an object and I mean any object you can have your very own asterism. Come on up to the Observatory on any Saturday night and have one of us point out a few of these interesting star formations!

We Celebrate Albert Einstein - The Scientist



This year marks a full century of the success of Einstein's theory of "Special Relativity." I recall one of many memorable quotes that Professor Einstein made that allows one to understand his respect for nature and his grasp and passion to seek universal truth: "The eternal mystery of the world is its comprehensibility The fact that it is comprehensible is a miracle." His pronouncement that all experiments should have the same results if con-

ducted in frames of reference of uniform velocity and his statement that the velocity of light is the same regardless of the motion of the source and observer have become verifiable truth. To a large extent A. Einstein, a child of the nineteenth century, initiated the new paradigm that has come to be known as "modern physics" in the early twentieth century. The old "classical physics" that evolved from the brain of Galileo and Newton, both of whom made their contributions to space, time, and gravity, led Einstein to begin new and far reaching insights. He lead the revolution in connecting space and time together. Yes, time can slow down when referenc-

ing objects approaching the speed of light with objects designed at rest. The "twin paradox" is a great gedanken (thought experiment) that alludes to the twin (Julie) returning from her light speed journey in space to the sister (Karen) back on earth only to greet her elderly sister who had stayed behind. Biological processes slowed down in the speeding space vehicle and so Julie is now considerably younger, relative to sister Karen, in the Earth rest frame. Today this and other strange phenomenon have been verified in the physics laboratory to create a new way of thinking about how nature works. However, in this same year 1905, Einstein invoked new ideas related to the kinetic theory of gases which included considering the transfer of heat in a material as the consequence of the motion of atom and molecules. This pre-dates the model of the hydrogen atom posited by Neils Bohr in 1912/13. This treatment of matter as individual atoms by Einstein caused him to later derive the science that related the random motion of atoms, the the particle nature of light and the photoelectric effect. By the way, he received a Nobel Prize for this later effort in the early 1920's. In the next edition of Desert Skies we will continue to talk about Albert Einstein's physics and its influence on us all, even to this day.

Robert D. Collier, Director-JCD Observatory

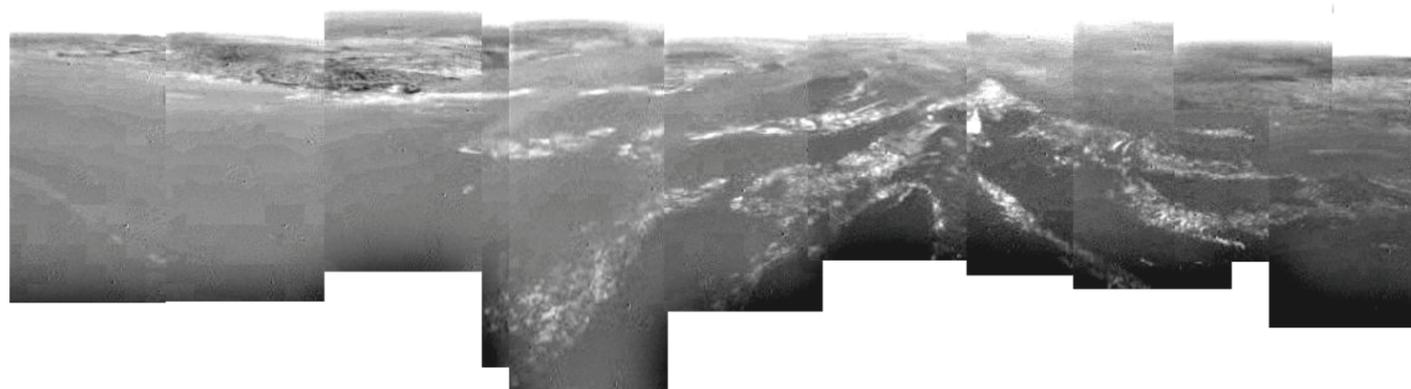
Objects in the Night

Can you identify the celestial objects in the Desert Sky logo? See page 3.



The realization slowly dawned on John that this time he had perhaps stayed out observing just a shade too long.....

Next WNAS General Membership Meeting is on March 17, with a presentation on the Riverside Telescope Makers Conference by Frank Davis!!

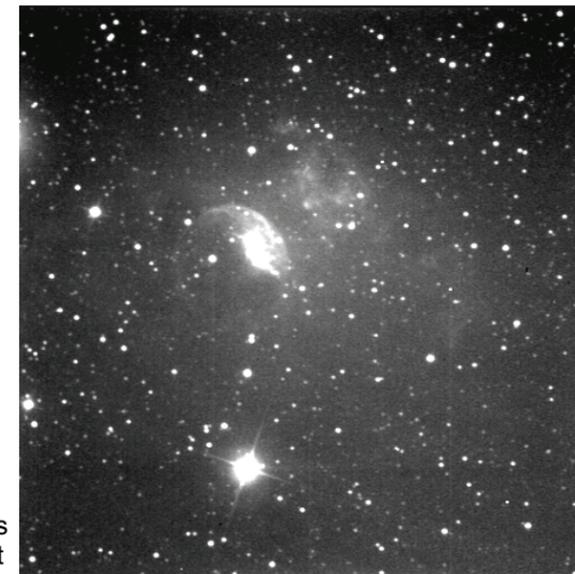


On January 14th the Huygens probe successfully descended through Titan's dense atmosphere and landed on the surface. As you might guess , many initial questions about Titan have now been answered, but scientists will now start the time consuming task of going through volumes of transmitted data.

The above composite was produced by the European Space Agency, the images were returned by the Huygens probe during its descent to land on Titan. The composite shows a full 360 degree view the from approximately 5 miles with a resolution of about 65 feet per pixel. The images were taken by the Descent Imager/Spectral Radiometer, one of several instruments NASA has onboard. As the probe descended through Titans atmosphere, it drifted over a plateau (center of the image) and was heading for its landing site in a dark area to the right. The wind speed was estimated to be approximately 4 miles per hour, based on the drift of the probe.

Imaging the Bubble Nebula

This image was taken at the Observatory by the Takahashi C-400. The Bubble Nebula, found in the constellation Cassiopeia, is not a true planetary nebula as we usually think of one. A planetary nebula is the expanding cloud of material lost by the expanding outer shell of a dying star. An example would be the Ring Nebula (M57) in Lyra. The Bubble Nebula is the result of a massive hot B star (BD+602522), which exists in a large cloud of interstellar gas and dust, emitting a fast moving stellar wind that is pushing the gas and dust ahead of its expanding leading edge shock wave. The visible "bubble" is created by the ionized gas created by the highly energetic stellar wind charged particles.



The central star of the nebula is forty times more massive than our sun and burns at least twice as hot at roughly 11,000 Kelvins. The bubble is expanding at a rate of 2000 kilometers per second (4 million miles per hour) and the bubble marks the leading edge of this wind's gust front, which is slowing as it plows into the denser surrounding material. The surface of the bubble is not uniform because as the shell expands outward it encounters regions of the cold gas, which are of different densities and therefore arrest the expansion by differing amounts. It is this gradient of background material that the wind is encountering that places the central star off center. There is more material to the northeast of the nebula than to the southwest, so that the wind progresses slower in that direction, offsetting the central star from the geometric center.

The Bubble Nebula is about 10 light years across (more than twice the distance from the sun to its next nearest star) and is about 7100 light years from us. The apparent magnitude of the central star is 8.0 and the star directly below the "Bubble" is 6.7 magnitude. This is a challenge for visual observers due to the relatively low surface brightness. Go to www.westernnevada-astronomical-society.com for a clearer image of NGC 7635. Jack L. Davis

Objects in the Sky answers: Andromeda Galaxy (easy) upper right, Comet left center