

# STAR GAZER NEWS

NEWSLETTER OF THE DELMARVA STARGAZERS

January 2002

WWW.DelmarvaStarGazers.Org

Volume 9 Number 7

## At the December Meeting

Don Surles brought the meeting to order at 7:15 with 18 members and guests attending. **Observer's Handbook 2002**- Some books are still available to stargazer members for \$15 each.

## Constellation of the Month: Cetus

### First Astronomy Breakfast Session

Saturday morning, January 12 at 9:30 a.m. at the  
*First Presbyterian Church, Smyrna*

### UNDERSTANDING THE UNIVERSE by Professor of Astronomy Tom Brennan

This talk is the first in a series covering all aspects of astronomy from mythology to the space programs

**The \$5 cost includes brunch and the public is invited**  
**Make reservations with Ron Zink at 302 735-8996**  
Times and places of future meetings will be announced

Cetus (SEE-tus) was presented by Tim Milligan. With the ancient greek mythology, Cetus was the sea monster about to attack Andromeda when Perseus killed it; Cetus later represented the whale which swallowed Jonah. Although Cetus is the 4th largest constellation, most of the objects are quite faint.

**Menkar**, an orange giant, forms an optical double with a 5th magnitude blue star **93 Ceti**. With a separation of 15 arc minutes, it makes a nice sight for low power binoculars.

**Gamma Ceti**- The most notable double star in Cetus, it consists of a 4th magnitude A2 star and a 6th magnitude F3 star separated by 2.7".

**Omicron Ceti (Mira)** is the prototype of a class of long period pulsating variables. When at a maximum, interferometer observations put the diameter at equal to 400 solar diameters!

**Tau Ceti** is the 7th closest naked-eye star at a distance of 11.8 light years. As a small G type star, 90% the size of our sun, it has been and will be a SETI candidate for having earth type planets and extraterrestrial life.

**66 Ceti** is a double star of a 6th magnitude F9 star and a 7th magnitude G4 star separated by 16".

### Deep Space Objects

**M77** is one of the peculiar Seyfert galaxies and is listed in Arp's Atlas of Peculiar Galaxies. At a distance of 60 million light years, it is the most distant Messier

object. **M77** is the largest galaxy of a small galaxy group that also includes **NGC 1055** and **NGC 1073**. **NGC 246** This is the only planetary nebula in Cetus. The only galaxy clusters are **Abel 194** and **Abel 400**.

## Program- The Big Bang Dilemma

STARS IN CETUS			
Name of Star	Spectra	Mag	Distance
$\alpha$ Ceti <b>Menkar</b>	M2 III	2.52	150 ly
$\beta$ Ceti <b>Denib Kaitos</b>	K1 III	2.00	60 ly
$\omicron$ Ceti <b>Mira</b>	M7 III	3-2	200 ly
$\gamma$ Gamma Ceti	A2/F3	3.6/6.2	70 ly
$\tau$ Tau Ceti	G8 V	3.5	11.8

Billie Westergard's program addressed some of the problems created by the Big Bang theory with possible alternative solutions. Some of these problems are:  
(1) globular clusters which appear to be older than the universe that contains them.  
(2) Bright Quasars whose large red shifts date them as early as only 800 million years after the Big Bang.  
(3) The original Big Bang was from a singularity whose

Monthly Meeting Tuesday, January 8

### The Mason Dixon Line

Bob Mentzer of DAS

Dew and Frost Prevention

7:00 p.m. First Presbyterian Church, Smyrna

size was  $10^{-37}$  cm to a universe the size of an average bedroom, before inflationary adjustment.

(4) Different members of connected galaxies having significantly different red shifts.

(5) Quasars, supposedly the progenitors of Galaxies, should increase as you go back in time but in reality they fall off dramatically. Through a friend visiting Cambridge College, Billie Westergard was exposed to the writings of astronomer Halton Arp, who had written a book called *Quasars, Red Shifts and Controversies*. Halton Arp is basically an *observational* astronomer, best known for his *Arp's Atlas of Peculiar Galaxies*. Billie was given a video of Arp's talk which discussed among other things differences in the red shifts between

physically connected galaxies. Billie was impressed with Arp's work since he had been thinking along the same lines. Arp also found a lot of quasars that appeared to be connected to nearby galaxies via a gaseous stream.

By taking photographs through the big telescopes (i.e. Palomar), Arp discovered that the quasars having extremely high redshift values, (and therefore located at a great distance away) are physically connected to galaxies that have **low redshift and are known to be relatively close by**. Because of Arp's work, the assumption that high red shift objects have to be very far away, and the principle on which the "Big Bang" theory and all of "accepted cosmology" is based, might be wrong! At this point Arp's work became controversial enough to lose him his telescope time at both Palomar and Mt. Wilson. He is currently with the prestigious Max Plank institute in Munich.

Another one of Arp's book dealing with this problem was titled *Seeing Red*. Any single image of a physical connection between objects that have widely differing

observations show everything falling out!" Arp's Universe is a steady state system with no beginning and no end.

At the heart of Arp's work and the sticking point with mainstream astronomers are the Peculiar Galaxies which Arp calls Quasar factories. Arp says that he has evidence showing that

	BIG BANG UNIVERSE	WORLD ACCORDING TO ARP
Age	15 Billion years	Unknown but >15 Billion years
Size	15 Billion Light Years (and growing)	Unknown but >15 Billion light years
Creation Matter	One Time 15 Billion years ago	Continuous Seyfert>Quasar>Galaxy

**2002 Club Dues (\$15.00)**  
**are Payable in January**  
 make check payable to *Delmarva Stargazers*  
 and mail to Frank Sheldon

certain relatively nearby systems are connected by *bridges of matter* to certain quasars, which seem to be very far away. Those are high redshift quasars connected with low redshift galaxies. One reason for non-acceptance of Arp's work is that mainstream astronomers have not found the crucial *bridges of matter*, Arp speaks of.

**From the President's Desk...**

January 1, 2002 Happy New Year! Welcome 2002. Good bye 2001 and good riddance to the news makers of the past year. Remember the good and bad from 2001 and make your own decision about the year as a whole.

From an astronomical viewpoint it was a most interesting year. We were very successful in our Mirror Making Weekend and our four-day star parties. We made many new friends and cemented relationships from the past parties. Viewing opportunities and conditions improved in the latter half of the year and provided us with planets, a few comets, meteors, occultations, auroras, beautiful sunsets, a space shuttle launch, and even some nite-time refueling of military planes. From an amateur astronomer's vantage point, 2001 was a tremendously successful year.

Now that you are outfitted with the latest eyepieces and gadgets via generous Christmas gifts, are you packed and ready to brave the clear, cold January and February skies? I have personally committed myself to spend more time viewing this year and certainly anticipate

redshifts is sufficient evidence in itself to refute the "Big Bang" theory. Arp has many such images. So, if Arp is correct in his contention that redshift is caused mainly by an object's being young, and only secondarily because of its velocity, quasars are not the brightest, most distant and rapidly moving things in the observed universe - but they are among the youngest. Halton Arp, views of the universe, are summarized as follows: The world according to Arp is a steady-state universe, with no Big Bang, no inflation, and with the intermittent creation of new matter. Redshift is not velocity related but an **inherent property of matter** that decreases with age. Arp's basic cosmological units are composed of an old parent galaxy of low redshift, accompanied by smaller younger companions with redshift excesses, and surrounded by newly-created quasars of high redshift. Both companions and quasars have been ejected by the parent galaxy.

Another thing that Arp rejects, is the concept of black holes, which are claimed to be real objects, that are so massive that their gravity sucks even nearby starlight into themselves, causing them to be completely dark or black. Arp says: "The greatly publicized theory shows black holes where everything falls in. But the real

seeing my fellow Stargazers bundled up and enjoying the fresh, mosquito-less fields of Tuckahoe. Make that commitment and I guarantee you will be healthier, happier, and wiser. We can add "cooler" if necessary. We are well into our eighth year - the magic ten year anniversary is on our horizon. Some time ago we talked about a commemorative collection of Delmarva Star Gazer history. Doug Norton has begun assembling the documents, photographs, etc. Please consider your own experiences within our organization and contribute as you feel necessary to become part of the written history of "DSG - The Fantastic First Ten Years!". Personal accounts of your involvement, your learning and teaching experiences, your equipment, the best viewing nights and sites, people you have met in astronomy, trips you have made to other star parties, friendships due to DSG - all these and many others will make great reading for our "DSG - The Fantastic First Ten Years!". Doug and your fellow Star Gazers are waiting to hear from you - ten years is a long time and I am sure each of us have several interesting stories to share. January is normally the month we "show and tell" our Christmas toys to the folks at our "inside" meeting. I cornered Ol Santa and convinced him I needed a couple more eyepieces so I will certainly bring them - please bring your Christmas loot to share and if by chance you received something so large it will not fit through the Church door, bring pictures!

Our program this month will center on the Mason-Dixon Line; Bob Mentzer presented this at our No-Frills Party last fall and has agreed to repeat for those of us who missed the presentation. Please plan to attend and learn more about the history and significance of Mason-Dixon Line.

Please challenge yourself to consider how you will spend 2002 relative to amateur astronomy. Will you devote more time to your hobby? More \$\$\$? Will you share your knowledge with fellow AA's? Will you build a scope? Will you complete the Messier list? Maybe the Herschel list? How about that fancy binocular and a lounge chair? Maybe a camera for photography? A new book? Opportunities abound for

anyone willing to commit and grasp; rewards are plentiful for those who do. Til next time; keep the dew and frost off your optics! I will see you at the Church or Tuckahoe. Don...

**The Editor's Quadrant...**

**The Solar System in December** **Mercury**- appears as an evening star in January in the west-southwest about a half hour after sunset. in the beginning of the month and reaching magnitude -0.8 before elongation on the 11th. Forget **Venus** in January as it goes into conjunction with the Sun on the 14th. **Mars**- in Pisces, continues fading in January as its magnitude goes from 0.6 to 1 and the disk size goes from 6.8" to 6". **Jupiter**, at magnitude -2.7, goes into opposition on January 1st and will be shining the entire night: this will be as good as it ever gets. **Saturn**, although past its opposition, remains a spectacular sight in January shining high and bright in Taurus with rings at full tilt. Forget **Uranus** and **Neptune** in January as both are too low in the evening twilight. Also scratch **Pluto** in January as it is lost in the morning twilight.

Clear Skies!, Frank Sheldon *f.a.sheldon@att.net*

[www.delmarvastargazers.org](http://www.delmarvastargazers.org)

**Club Activities...**

**Club Meetings**- We meet in the First Presbyterian Church in Smyrna, DE (653-8000) on the first Tuesday of each month from 7-9 PM. From US 13, turn west at Wendy's and go one stoplight on Commerce Street; the church is on the right directly across from the Fire Hall.

**Future Meetings...**The meeting dates for 2002 will be: January 08, February 05, March 05, April 02, May 07 June 04 July 06 Picnic at Tuckahoe, August 06 to be announced, September 03, October 08, November 05, December 03

The regular meeting format includes discussion of club activities, observing highlights and an advertised presentation. We solicit suggestions for topics and presenters.

**Club Observing...** Observing is (usually) scheduled for the Friday nearest the New Moon to maximize the hours of *deepnight* without the moon in the sky. Unless otherwise stated, the monthly observing site will be at the baseball field in the camping area at Tuckahoe State Park. The monthly observing days for the year 2002 will be: January 11, February 8, March 15, **Stargaze VIII** April 10-14, May 10, June 07, July 12, August 9, September 9, **No-Frills**

**How to Join the Delmarva Star Gazers:** Anyone with an interest in any aspect of astronomy is welcome to Join.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE & ZIP \_\_\_\_\_

E-MAIL ADDRESS (If any) \_\_\_\_\_

SPECIAL INTERESTS OR TALENTS \_\_\_\_\_

Please attach a check for \$15 made payable to Delmarva Stargazers and mail to Frank Sheldon, 20985 Fleatown Rd, Lincoln, DE 19960. Call club President Don Surles at 302-653-9445 for more info.

VII October 2-6, November 1, December 6 The cloud or rain date for the monthly Friday observing will be the following Saturday, but don't trust the weather man! Go outside and look for yourself or check the CNN weather link on our web page. If you still can't decide, Call Don Surlles (302) 653-9445 or Lyle Jones (302) 736-9842.

**Delmarva Star Gazers Officers for 2001-2002**

**President.....Don Surlles 302 653 9445**  
**Vice President.....John Flynn 302 999 9882**  
**Secretary..... Lyle Jones 302 736 9842**  
**Treasurer.....Kathy Sheldon 302 422 4695**