The Shoreline Observer

Newsletter for the
Shoreline Amateur Astronomical Association

President - Mark Logsdon **Vice President** - Gary Stroven **Secretary/Treasurer** - Phil Sherman

Mike Henry, Editor 508 Century Ln #2, Holland, MI 49423 January 1994

January Meeting

The January meeting of the Shoreline Amateur Astronomical Association will be held on Thursday January 20, beginning promptly at 7:00 PM in the West Ottawa Middle School Planetarium.

Sandy will give a tour of the January night sky.

Pete will provide a slide show on the Solar System.

Bill will bring refreshments.

Board Meeting Minutes 12-22-93

With Rodger sitting in, Mark called the meeting to order at 7:00 P.M. Gary, Phil, Larry and Mike were all present.

Old Business

The Board will offer with it's recommendation an amendment to our constitution January 20. Proposed that Article III, Section I be amended to provide for a two year term of office in place of the current one year term.

Mark recommended that Observers Handbooks be ordered directly from RASC. Price is lowest by ordering directly from RASC. Board concurred.

Treasurer's Report: $247.11

New Business

Discussion of Astronomy Day - April 16, 1994. A lack of enthusiasm is in evidence for a return to Westshore Mall for a fourth annual mall display. The Board is leaning towards simply holding a public star party to celebrate the event.

Phil and Mark are going to contact a variety of potential speakers for possible presentations to SA^3 in 1994. Additional suggestions in this area are welcome!

Mike is preparing a map of the Vivekananda Monastery grounds for inclusion in the "Shoreline Observer". Unless otherwise noted, future SA^3 star parties will be held at the

Monastery on the Friday night nearest the new moon each month. In case of a cloud out, Saturday will serve as backup.

Minutes respectively submitted by Mark Logsdon.

Thanks

A big thank you to Bob Wade for the excellent newsletters that he has edited for the past several years. I have only received newsletters since June but I looked over the newsletters from past years and was astounded at the amount of work that he has done to bring everyone a newsletter to be proud of. I only hope that I can do half as good a job.

HELLLLLLLP!!!

SA³ has 3 telescopes that any member may borrow for one month (please see Mike Henry). A 60mm refractor, a 4.5" Dobsonian and a 6" equatorial. The 4.5" and the 6" do not have any eyepieces with them, however. If anybody has a spare eyepiece that they would like to loan or, preferably, donate to the club it would be greatly appreciated. We need .965" and 1.25" sizes. Also any starcharts or planispheres would be very helpful. Our goal is to make the telescopes usable by a member who has no stargazing equipment.

What Did We See In 1993

Numbers in parentheses represent volume and page number, respectively, of Science News magazine.

Two teams of astronomers reported evidence that the Milky Way contains Jupiter - size chunks of dark matter known as Massive Compact Halo Objects (144:199).

Measuring for the first time the motion across the sky of a galaxy other than our own, scientists presented a more accurate estimate of the amount of dark matter believed to be contained in the Milky Way (142:374).

Some researchers proposed that the gamma-ray-emitting pulsar Geminga, created in a supernova explosion, may have sculpted the huge void in space in which our sun and some nearby stars reside (143:4). Others suggested that several supernova explosions collectively formed the misshapen void (143:326).

Astronomers presented the first images made with the world's largest optical telescope, the 10-meter W. M. Keck atop Hawaii's Mauna Kea(143:388).

Astronomers discovered the brightest supernova to appear in the northern sky since 1937 (143:246). The changing pattern of light emission from the stellar explosion, dubbed SN1993J, suggests it may be a link between two types of supernovas (144:15).

For the first time, astronomers caught a cloud of gas and dust in the act of making a star (143:156).

Many infant, low-mass stars possess disks of dust that have the potential to form planets, astronomers found (143:74).

New data from NASA's Cosmic Background Explorer satellite bolster the notion that the universe began with a Big Bang, researchers said (143:43).

The X-ray satellite ROSAT found evidence that small groups of galaxies contain a surprisingly high proportion of dark matter (143:20).

Cosmologists proposed that a combination of hot and cold dark matter may best explain the structure of the universe (143:328). Other researchers suggested a single mechanism that might have generated both hot and cold dark matter in the early universe (144:69).

Reprinted from Science News Dec 18 & 25, 1993. Vol 144, Nos 25 & 26. Pg 419.

Astro Quiz

by Mike Henry

Every month I will print 5-10 questions about astronomy. Bring the correct answers to me at the next meeting. When you get 25 questions correctly answered then you will win a gift certificate from Great Lakes Pizza Co.

Last months answers: 1-700,000,000 2-Magnitude 3-February 4-Pulsar 5-250,000,000.

1) How many "spiral arms" are in the Milky Way? 3
2) The word galaxy comes from the Greek word ________. galaxias
3) How many constellations are there? 88
4) The apparent path of the sun against the background stars is called? ecliptic
5) What is the apparent magnitude of the sun? -26.5

Questioning a galactic star forming model

Like the two halves of a watermelon, concentrations of stars and gas sit above and below the disk of our galaxy. Astronomers have long believed that this dense central bulge, which makes up about one-fifth of the Milky Way's visible mass, contains many of the oldest stars in the galaxy. But a new study suggests that a significant number of stars in the bulge are not elderly, just middle-aged.

This finding, along with observations of three neighboring galaxies, flies in the face of conventional wisdom, which holds that the densest parts of a galaxy make most of their stars before other regions begin the process. The finding may force astronomers to revise the standard model of how and when galactic bulges make stars, says Jon A. Holtzman of Lowell Observatory in Flagstaff, Ariz.

Holtzman and his colleagues used the Hubble Space Telescope's wide-field camera to peer through a relatively dust-free pathway, known as Baade's Window, into the galactic bulge. The camera recorded stars 10 times fainter than those previously seen in the bulge. Relying on the principle that stars shine more brightly but die out more quickly than less massive ones, the researchers inferred an age range for the bulge stars by determining the luminosity at which the number of stars abruptly decreases.

The team estimates that a substantial number of stars in the bulge are 6 to 10 billion years old, rather than the 10 to 15 billion years previously suggested by researchers. Astronomers had thought that all bulge stars were related to and roughly the same age as those in the Milky Way's globular clusters, ancient star-packed groupings surrounding the disk of the galaxy. Holtzman and his coworkers describe their study in the November ASTRONOMICAL JOURNAL.

Holtzman cites three difficulties that make the results of the Hubble study somewhat tentative: the telescopes flawed optics, incomplete mapping of the amount of light-obscuring dust in Baade's Window, and uncertainties about the distance of the bulge.

However, several recent ground-based studies reveal that bulge stars in near galaxies are also younger than once thought. For example, in Andromeda, the nearest galaxy similar to our own, stars in the bulge appear to be younger than those in that galaxies oldest globular clusters. R. Michael Rich of Columbia University in New York City, Jeremy R. Mould of the California Institute of Technology in Pasadena, and James R. Graham of the University of California, Berkeley, will report the Andromeda study in the December ASTRONOMICAL JOURNAL. Other Astronomers have reported similar age estimates for the bulge of M32, a satellite of Andromeda, and for the galaxy M33.

Astronomers have proposed that a galactic merger or collision may explain why many stars in the bulge don't form until well after other parts of a galaxy have had their first glimmers of starbirth. In these models, notes Rich, a violent encounter later in the life of a galaxy would drive gas into the core, where it would trigger a burst of star formation and eventually thicken into a bulge.

Written by R. Cowen.

Reprinted from SCIENCE NEWS November 13, 1993, Vol. 144, No. 20, Page 311.