



CAPE FEAR

Skies



The
Monthly
Newsletter of the
Cape Fear Astronomy Club

Volume 3 Number 2

Wilmington, NC

February 1988

February Meeting

February 7, 1988 6:00 PM
Bryan Auditorium
Morton Hall
UNC-W Campus

The Next Meeting of the Cape Fear Astronomy Club will be held on February 7, 1988 in Bryan Auditorium Morton Hall on the UNC-W Campus. The business meeting will begin at 6:00 PM.

The program for the general meeting will be a slide presentation given by Johnny Horne of Stedman, NC. Mr. Horne is a photographer for the local Fayetteville papers and has constructed an observatory in his backyard. The general meeting will begin at

Ronnie gave the treasurer's report.

Paul reported that new copies of the constitution are available. This is the revised edition with changes: 1. Making the Editor of *Cape Fear Skies* a staff member on the club; and 2. Listing the duties of the Associate Vice-President. Paul also noted that all spelling and punctuation errors had been corrected.

At this meeting, the membership voted on the modifications to the observatory blue prints, including the addition of 2 more exits and the enlargement of the dome from 4 to 5 meters.

New Business

Alan asks that any member interested in going to Florida for the launch of the next flight of the space shuttle should contact him. He has a pass to get into the launch viewing area.

The club is trying to plan a trip to the Morehead Planetarium possibly for sometime in late February or early

(Continues on page 2.)

Highlights of the January Meeting

January 10, 1988

Alan Hilburn Called the meeting to order. This was our first meeting of the new year, and also our election and awards meeting. Paul Petty called role of members, and Ronnie reminded all members that their dues were now due for the new year. Ronnie also reported that he had paid the yearly dues to the Astronomical League for members dues and newsletters.

Alan read the minutes of the December meeting and Paul reported that 36 members had attended that meeting.

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January Meeting Highlights
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March. If you are interested, please contact any Staff Member.

Upcoming events for the year include: Setting up booths at Independence mall; The J.C. County Fair; Riverfest 88; and having another Yard Sale.

Alan reports that the Perseid Meteor shower in August will be very good this year, as it falls during a new moon. We'll hope for clear skies. Also, This is the year for the Mars opposition. We will be planning observing sessions for the public and the club.

We will also be planning another club workday soon.

Ronnie asks anyone interested in joining the Messier Club program to contact him.

Alan closed the business meeting and introduced our guest speaker Mr. Bob Melvin, an amateur astronomer from Fayetteville North Carolina. Bob presented a slide show from his trip to the Kitt Peak Observatory in Arizona and gave a short talk on the research work he had done there.

Awards for 1987

Certificates of appreciation went to: Herman Bryant; Betty McMillan; Debbie Petty; Steve Reynolds; Doug Rhodes; and Wayne Teachey.

This years Special Achievement awards went to: Paul Petty for club activities and Conrad Pope for astronomical activities.

David Maness received the Halley award for 1987.

The Bob Cook award for Outstanding Achievement went to: Jane Fountain for club activities and Ronnie Hawes for scientific achievement.

Election results

The following people have been elected to serve as club officers for 1988.

President	Vice-President
Alan Hilburn	Paul Petty
120 Coventry Rd.	110 Linville Dr.
Wilmington, NC 28405	Castle Hayne, NC 28429
791-7058	675-2952

Assoc. Vice-President	Secretary
Jane Fountain	Barbara McGowan
838 Billmark Dr.	4 Olde Town Wynd So.
Wilmington, NC 28403	Leland, NC 28451
791-3534	371-6921

Treasure	Editor
Ronnie Hawes	Tom Jacobs
305 N. 21st St.	820 McMillian Ave.
Wilmington, NC 28405	Wilmington, NC 28403
762-1033	392-4853

Alan Officially closed the meeting at 9:00.

-Submitted by Jane Fountain
for Barbara McGowan

Warning!

If you have not paid your 1988 Cape Fear Astronomy Club Dues, you will be missing out on future issues of

Cape Fear Skies.
and all of the other benefits of membership.

Please renew at once.

For Sale!

Deluxe Large Metal-Clad
Accessory Case
With Diced-Foam Liner
\$40.00

Contact: Alan Hilburn
791-7058

Guest Lecturer Coming to Wilmington

The Physics Department of UNC-W has asked that the club announced two lectures on astronomy. These lectures will be presented by Dr. Gary Steigman who is a participant in the Harlow Shapley visiting lectureships in Astron-

"Cosmic Connections: Particle Physics and Cosmology"

A lecture by
Dr. Gary Steigman
Professor of Physics and Astronomy
Ohio State University
Wednesday
February 10, 1988
8:00 PM
King Auditorium - King Hall
UNC-W Campus

The study of the Microcosm, Elementary Particle Physics, is pursued by colliding particles at high energy accelerators. The study of the Macrocosm, Cosmology, probes the present structure and past evolution of the Universe. Since the Universe, during its early evolution, was very hot and very dense, collisions among particles at enormous energies were very frequent. The Big Bang was the Ultimate Accelerator. Cosmology thus provides a unique approach to the study of high energy physics and, in return, the physics of elementary particles influences the early evolution of the Universe and shapes its present structure. Such Cosmic

"Candidates for Dark Matter in the Universe"

A Lecture by
Dr. Gary Steigman
Professor of Physics and Astronomy
Ohio State University
Thursday
February 11, 1988
4:00 PM
218 DeLoach Hall
UNC-W Campus

Comparison between the predictions of Primordial Nucleosynthesis with the observed abundances of the light elements constrains the current density of baryons in the Universe to be small ($\Omega_B < 0.1-0.2$). Inflation or "naturalness" suggests that the total Mass density in the Universe should be equal to the critical density ($\Omega_{TOT}=1$). The data on dark mass in the Universe will be reviewed with an emphasis on the question of how much, if any, of the unseen mass need be in non-baryonic material. "Hot", "Warm", and "Cold" candidates for non-baryonic dark matter will be introduced and - where possible - constraints on their properties discussed.

More information about Dr. Gary Steigman

Gary Steigman is Professor of Physics and Astronomy at the Ohio State University where he is building an interdisciplinary group in Theoretical Astrophysics to work at the frontier of Cosmology and High Energy Physics.

Professor Steigman received his B.S. degree in Physics from the City College of New York, and his M.S. and Ph.D. degrees, in physics, from New York University. He was a postdoctoral fellow at the Institute of Theoretical Astronomy (Cambridge, England) and at the California Institute of Technology before joining the faculty of the Astronomy Department at Yale University. Before coming to OSU, Dr. Steigman was Professor of Physics at the Bartol Research Foundation and Adjunct Professor of Physics

at the University of Pennsylvania.

Steigman's research interest have ranged from astrophysics to particle physics, from the physics of interstellar medium to the physics of the early Universe. At present his research focuses on Primordial Nucleosynthesis and on the Nature of the Dark Matter in the Universe.

Sun - Moon rising and setting times for February

Date	Moon rise		Moon set		Twilight begins		Sun rise		Sun set		Twilight ends	
	UT	EST	UT	EST	UT	EST	UT	EST	UT	EST	UT	EST
1-Feb-88	21:37	16:37	11:26	6:26	10:44	5:44	12:10	7:10	22:42	17:42	0:08	19:08
2-Feb-88	22:37	17:37	12:04	7:04	10:43	5:43	12:09	7:09	22:43	17:43	0:08	19:08
3-Feb-88	23:35	18:35	12:37	7:37	10:43	5:43	12:08	7:08	22:44	17:44	0:09	19:09
4-Feb-88	0:32	19:32	13:06	8:06	10:42	5:42	12:08	7:08	22:45	17:45	0:10	19:10
5-Feb-88	1:28	20:28	13:33	8:33	10:42	5:42	12:07	7:07	22:46	17:46	0:11	19:11
6-Feb-88	2:24	21:24	13:59	8:59	10:41	5:41	12:06	7:06	22:47	17:47	0:12	19:12
7-Feb-88	3:21	22:21	14:25	9:25	10:40	5:40	12:05	7:05	22:47	17:47	0:13	19:13
8-Feb-88	4:20	23:20	14:52	9:52	10:39	5:39	12:05	7:05	22:48	17:48	0:14	19:14
9-Feb-88	23:58	18:58	15:23	10:23	10:39	5:39	12:04	7:04	22:49	17:49	0:14	19:14
10-Feb-88			15:58	10:58	10:38	5:38	12:03	7:03	22:50	17:50	0:15	19:15
11-Feb-88	6:28	1:28	16:40	11:40	10:37	5:37	12:02	7:02	22:51	17:51	0:16	19:16
12-Feb-88	7:35	2:35	17:29	12:29	10:36	5:36	12:01	7:01	22:52	17:52	0:17	19:17
13-Feb-88	8:42	3:42	18:28	13:28	10:35	5:35	12:00	7:00	22:53	17:53	0:18	19:18
14-Feb-88	9:45	4:45	19:37	14:37	10:35	5:35	11:59	6:59	22:54	17:54	0:19	19:19
15-Feb-88	10:39	5:39	20:49	15:49	10:34	5:34	11:58	6:58	22:55	17:55	0:20	19:20
16-Feb-88	11:25	6:25	22:04	17:04	10:33	5:33	11:57	6:57	22:56	17:56	0:20	19:20
17-Feb-88	12:04	7:04	23:16	18:16	10:32	5:32	11:56	6:56	22:57	17:57	0:21	19:21
18-Feb-88	12:38	7:38	0:26	19:26	10:31	5:31	11:54	6:54	22:58	17:58	0:22	19:22
19-Feb-88	13:08	8:08	1:34	20:34	10:30	5:30	11:53	6:53	22:59	17:59	0:23	19:23
20-Feb-88	13:37	8:37	2:40	21:40	10:29	5:29	11:52	6:52	23:00	18:00	0:23	19:23
21-Feb-88	14:07	9:07	3:45	22:45	10:28	5:28	11:51	6:51	23:01	18:01	0:24	19:24
22-Feb-88	14:39	9:39	23:32	18:32	10:27	5:27	11:50	6:50	23:02	18:02	0:25	19:25
23-Feb-88	15:16	10:16			10:26	5:26	11:49	6:49	23:02	18:02	0:26	19:26
24-Feb-88	15:56	10:56	5:53	0:53	10:25	5:25	11:48	6:48	23:03	18:03	0:27	19:27
25-Feb-88	16:43	11:43	6:54	1:54	10:23	5:23	11:47	6:47	23:04	18:04	0:27	19:27
26-Feb-88	17:35	12:35	7:51	2:51	10:22	5:22	11:46	6:46	23:05	18:05	0:28	19:28
27-Feb-88	18:31	13:31	8:41	3:41	10:21	5:21	11:44	6:44	23:06	18:06	0:28	19:28
28-Feb-88	19:30	14:30	9:26	4:26	10:20	5:20	11:43	6:43	23:07	18:07	0:29	19:29
29-Feb-88	17:01	12:01	8:55	3:55	10:19	5:19	11:42	6:42	23:08	18:08	0:30	19:30

Sky Calendar for February 1988

(All times are Given in UT to convert to EST subtract 5 hours.)

- 1st*
 15:00 Moon passes 0.2° North of Vesta.
 16:00 Mercury Stationary in Right Ass. Begins retrograde (westward) motion.
- 2ed*
 ----- Groundhog's Day. Halfway between Solstices and Equinoxes.
 20:51 Full Moon - Called Snow moon; Hunger moon; or Wolf Moon.
- 3rd*
 10:00 Moon at apogee. Distance is 63.7 earth radii.
- 6th*
 ----- Alpha Aurigid Meteors. Peaks during February 6th thru 9th. Slow moving with a Zhr = 12. Radiant is RA = 4:56 Dec = 43°.
 6:00 Moon at decending node.
- 8th*
 ----- Theta Centaurid Meteors. Radiant is RA = 14:20, Dec = -44°.
 19:00 Moon passes 0.7° south of Spica.
- 10th*
 13:00 Mercury at greatest Latitude North of ecliptic plane. (7°)
 23:01 Moon at last quarter.
- 11th*
 4:00 Mercury at inferior conjunctions with the Sun. Moves into the morning sky.
 12:00 Mars at descending node.
- 12th*
 1:00 Equation of time at minimun for the year. (- 00:14:18) When sundial time is noon, mean solar time is 14 minutes later.
 5:00 Moon passes 0.5° south of antares.
- 13th*
 1:00 Saturn is 1.3° north of Uranus. Magnitudes 0.5 and 5. Not visible in our area at the time shown. However, try looking around 5am EST on the morning of the 13th (low in the Southeast sky) at medium powers for a nice view of Saturn and Uranus in the same field of view.
 9:00 Moon passes 5° south of Mars.
 19:00 Moon passes 6° south of Saturan and 5° south of Uranus.
- 14th*
 9:00 Moon passes 6° south of Neptune.
- 15th*
 ----- Galileo born this day in 1564.
- 16th*
 22:00 Sun enters Aquarius.
- 17th*
 ----- Ash Wednesday.
 10:00 Moon at Perigee. Distance is 56.0 earth radii. Watch out for high tides.
 15:54 New Moon.
- 18th*
 21:00 Venus at ascending node.
 23:00 Pluto stationary in RA. Begins retrograde (westward) motion.
- 19th*
 ----- Nicholas Copernicus born this dated in 1473.
 8:00 Moon at ascending node.
- 20th*
 17:00 Moon passes 1.9° north of Venus.
- 21st*
 18:00 Moon passes 6° south of Jupiter.
- 22ed*
 21:00 Mars passes 0.01° north of Uranus. Magnitudes should be 1.1 and 5.7. Let's watch for this one folks. Even though it won't be visible at the time shown in our area, try looking at about 5am EST on the morning of the 22ed. Med poser should show Saturn; Uranus; and Mars all in the same field of view. (Low in the Southeastern sky).
- 23rd*
 4:00 Mercury Stationary in RA. Resumes eastward motion.
 13:00 Mars passes 1.3° south of Saturn. Magnitudes of 1.1 and 0.6
- 24th*
 12:15 Moon at first quarter.
- 26th*
 ----- Delta - Leonid Meteors. ZHR less than or equal to 3. Slow moving, Radiant is RA = 10:36, Dec = 19°.
- 28th*
 12:00 Moon passes 0.2° south of Vesta.
- 29th*
 ----- Leap Day

Upcoming Events in February

Monthly Meeting for February

February 7, 1988; 6:00pm Bryan Auditorium - Morton Hall

Lecture "Cosmic Connections: Particle Physics and Cosmology"

February 10, 1988; 8:00pm King Auditorium - King Hall

Lecture "Candidates for Dark Matter in the Universe"

February 11, 1988; 4:00pm 218 Deloach Hall

Club Workshop

February 13, 1988; 10am until ? 102 Bear Hall

Deadline for submission to the March Newsletter

February 18, 1988

Tom Jacobs - Editor
Cape Fear Skies
110 Linville Dr.
Castle Hayne, NC 28429



Alan Hilburn
120 Coventry Rd.
Wilmington, N.C. 28405