5-80

THE PRAIRIE ASTRONOMER

Volume 20, Number 6 May 27, 1980

The "STAR WARS SAGA" Continues...EMPIRE STRIKES BACK is Coming

In 1977...almost exactly 3 years ago, members of the Prairie Astronomy Club were invited to a special KLMS Premiere of a movie called "STAR WARS." At the time, nobody knew that the film they were about to see would become the largest-grossing picture in movie history, that it would lead to a small industry of dolls, posters, T-shirts, etc., and no fewer than 8 more (planned) motion pictures.

Now, I'm pleased to announce that a limited number of tickets are being made available by KLMS, the Stuart Theater, and 20th Century Fox, to P.A.C. members for a special premiere showing of "THE EMPIRE STRIKES BACK", Episode V of the STAR WARS series. The premiere will be held at the Stuart Tuesday evening, June 17, at 8:00 p.m., and will be followed by a champagne party at Sweep Left. It is limited to people 19 years of age and older.

Because, this time around, Fox Pictures knows it has a winner, they are understandably reluctant to let go of large numbers of free tickets. So, we may not have enough to go around. At this point in time, I don't know for sure exactly how many we might have, but I will know more at the Tuesday meeting. If you are interested in attending the premiere, be sure to come to Tuesday's meeting and get your name on the list. (Tickets will be mailed to club members along with those going to the station's listeners, once we determine how many are available.)

I have seen the picture. You don't want to miss it. See you at the meeting!

--Lee Thomas

May Meeting Scheduled For 27th

The May meeting of the Prairie Astronomy Club will be held Tuesday night, May 27, at 7:30 p.m., at Hyde Memorial Observatory. Among other items on the program, Roger Besch will have slides of his recent tour of Kitt Peak National Observatory.

The Hyde Observatory Committee will meet, as usual, one hour earlier, at 6:30 p.m.

EINSTEIN-PREDICTED GRAVITY WAVES MAY HAVE BEEN FOUND

Scientists at the Goddard Space Flight Center believe they may have discovered a specific source of gravitational radiation in the universe, a phenomenon predicted by Albert Einstein in his general theory of rel-

(Continued on Page 3)

WE GET LETTERS DEPARTMENT:

STEPP ARTICLE ON COMA IN NEWTONIANS ELICITS RESPONSE

(The following letter, addressed to Larry Stepp, comes from Norman Sperling, who is well known to many club members as an assistant editor of SKY & TELESCOPE. We'll have Larry's response in the next issue.)

May I make a point or two about RFTs that you did not bring up in your latest article in the PRAIRIE ASTRONOMER? First is about the overall length of a telescope. You seem to think it is irrelevant. I beg to differ. The shorter a scope is, the more compact, the cheaper to build and maintain, the less bulky the mount necessary--all highly important in designing an instrument that will be used rather than ignored. These factors are far from trivial. Economically, a compact telescope offers such advantages in packaging and mounting that the price to the consumer is considerably less than a longer one with similar image. And for convenience, experience demonstrates that people will more often use a convenient scope than an inconvenient one. The urge to go out on a cold night or for a short time is often marginal; lugging an awkward mount can make all the difference.

Second, the impression of coma at the edge of the field is subjective and bothers some people, such as yourself, farm more than others. Most people, especially novices, concentrate on the center of the field where aberrations are minimal. I have a great span of experience in observing with f/3.5 to f/4.5 Newtonians, and can tell you that the coma is only a minimal factor in enjoying the view. The impressiveness of a nebula, galaxy, or Milky Way field is every bit as good at f/4 as at f/7. Open clusters lose a tiny bit only when they fill the field.

The problem of large eyepieces should not be minimized. It is harder to pay for or handle them than a large secondary flat. Monster eyepieces often use a lot of glass, which somewhat lessens the total amount of light coming through and also tends to decrease contrast (I think this is from scattering off all the surf-

(Continued on Page 4)

THE PRAIRIE ASTRONOMER is published monthly by the Prairie Astronomy Club, and is free to club members. Yearly subscription without club membership is $5.00. Regular membership (includes one - year subscription to Sky & Telescope, club newsletter, and four quarterly issues of the Astronomical League newsletter), is $14.00. Family membership (includes all regular privileges, plus one additional vote in club elections) is $16.00. Newsletter editor, Lee Thomas, 489-3855. Address all correspondence to PRAIRIE ASTRONOMY CLUB, INC., P.O. Box 80553, Lincoln, Nebraska 68501.

Gravity Waves May Have Been Found In Universe--At Last!

(Continued from Page 1)

ativity.

The suspected source of the radiation is a neutron star lying in the debris of a massive stellar explosion, or supernova, first noticed a year ago and designated N-49, according to Dr. Thomas L. Cline and Dr. Reuven Ramaty, Goddard physicists.

"I have been working in this field for seven years and this is really the culmination of all of it," Cline said.

Einstein postulated that gravitational radiation existed in the universe as, in the 1920s and 1930s, he attempted to weld together theories of electromagnetism and gravitation into an understandable whole.

Researchers have long thought that gravitational radiation, if it does exist, would originate in large, vibrating masses of matter and would consist of gravitational fluctuations travelling at the speed of light while carrying energy through the universe.

Cline and Ramaty believe that they, working with colleagues at other research institutions in the United States, the Soviet Union and France, may have found such a vibrating mass in the N-49 neutron star, resident of a galaxy called the Large Magellanic Cloud.

The Large Magellanic Cloud, about 150,000 light years away, is one of two galaxies nearest our own Milky Way that can be seen with the unaided eye in the southern hemisphere of earth.

The two Goddard scientists, studying data collected by spacecraft instruments, said the N-49 neutron star is a vibrating object.

Vibration, in this context, means that the star is constantly changing its shape.

It is these shape-changing vibrations, Cline and Ramaty believe, that are the source of the gravitational radiation emanating from the neutron star.

The mass of a neutron star is so dense--that is, the material is so tightly packed together--that a teaspoonful could weigh a billion tons. Put another way, a neutron star may be only 10 or 20 miles in diameter yet be equal in mass to the sun.

N-49 was spotted by Cline and his colleagues in the course of studying gamma rays moving through the universe. Gamma rays are the most energetic form of electromagnetic radiation, which includes X-rays, radio waves and visible light.

Though potentially deadly, celestial gamma rays do not reach the earth in any quantity because the atmosphere acts as a shield against them. Hence, detectors aboard spacecraft flying above the earth's atmosphere are an ideal way to record gamma ray phenomena.

And that is exactly what happened March 5, 1979, when instruments aboard five spacecraft from the Unit-

(Continued on Page 4)

STEPP ARTICLE DRAWS RESPONSE

(Continued from Page 2)

aces.

No two people value precisely the same characteristics in telescopes,so your premium on minimizing coma means more to you than convenience means to me, perhaps. But you should be aware that "undeserved" is undeservedly strong for your criticism of the popularity of f/4s.

My comments above are purely my own personal opinion and not necessarily those of my employer.

--NORMAN SPERLING

POSSIBLE GRAVITY WAVE DISCOVERY IS ANNOUNCED BY GODDARD SCIENTISTS

(Continued from Page 3)

ed States, three from the Soviet Union and one launched jointly by this country and West Germany detected--for just a fraction of a second--a gamma ray burst that has now been traced to N-49.

That finding marked the first time that researchers have been able to tie a gamma ray burst to any known astronomical object and provided evidence, for the first time, of the vibration of a neutron star.

THE PRAIRIE ASTRONOMER
c/o Prairie Astronomy Club, Inc.
P.O. Box 80553
Lincoln, Nebraska 68501

LINCOLN NEBR. MAY 26'80 U.S. POSTAGE .15 PB METER 1249038

FIRST CLASS MAIL

Mr. Earl Moser
Hickman,
Nebraska 68372

9/80