



The Prairie Astronomer

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Search for More Planets Goes On

Astronomers plan to train sensitive electronics instruments on nearby stars this year in an unprecedented effort to probe the universe for worlds beyond the sun's family of planets.

The recently organized Extrasolar Planetary Foundation eventually will examine more than 500 stars for evidence of other systems.

"As a fledgling space race, humanity stands once again at the edge of a vast, new frontier", the foundation says. "This time it is one that can encompass all of our restlessness and curiosity, presenting endless new worlds of the unexpected.

Dr. George Gatewood, head of the University of Pittsburg's Allegheny Observatory, will direct the first phase of the effort--the examination late next summer of 50 nearby stars for evidence of planetary systems.

"We see this thing as a very long-range venture," said Gatewood. "We see mankind eventually venturing to the stars. It won't be soon, but when he goes he's going to need a road map."

To draw that map, Gatewood and his colleagues will use a MAP, or Multichannel Astrometric Photometer, which is an electronic instrument capable of gleaning in one hour the same amount of information it would take a conventional telescope a year to gather.

The MAP looks at a large field of stars and records how one star moves relative to the others. Although the planets themselves would be too faint to see, by measuring this relative movement from night to night, Gatewood believes the bodies

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Convention!

Enclosed in this issue of the PRAIRIE ASTRONOMER is your copy of the program for the 1981 Mid-States Regional Convention of the Astronomical League, and a Preregistration Form for your personal use.

PLEASE PRE-REGISTER! PLAN NOW TO ATTEND! LET'S BE SURE THE PRAIRIE ASTRONOMY CLUB IS WELL-REPRESENTED AT OUR CONVENTION!

May Meeting

The May meeting of the Prairie Astronomy Club will be held at Hyde Observatory Tuesday night, May 26, 7:30 p.m.

Program Chairman Russ Genzmer has arranged for an edited version of the Nova Program, "The Asteroid and the Dinosaur". In addition, there will be a final planning session for the Mid-States Regional Convention, which will be a scant 10 days away from the meeting date.

OBSERVING CHAIRMAN'S REPORT:

This month's sky is dominated by faint galaxies and globular clusters. In Ursa Major, look slightly more than one degree southeast of Beta Ursa Majoris for M108, an edge-on spiral galaxy visible in a six-inch telescope. The galaxy appears as a narrow streak of faint light.

Less than a degree southeast of M108 is the planetary nebula M97. Visible in a four-inch telescope, this nebula, also known as "The Owl" Nebula, shows two dark spots in it, although only one is easily seen in amateur instruments.

Also in Ursa Major is the large spiral galaxy M101, located $4\frac{1}{2}$ degrees east of Mizar (Alpha Ursa Majoris). Although I have seen it in a 2.4-inch refractor, it has a very low surface brightness and is easy to miss, so use very low power when observing it.

Two and one-half degrees west and two degrees south of Eta Ursa Majoris is the great galaxy M51. It is visible in a 2.4-inch refractor along with its fainter companion galaxy and the spiral structure of the main galaxy can be seen faintly in an eight-inch instrument.

In Canes Venatici look for the globular cluster M3 located 6 degrees east of Beta Coma Berenici. It is almost as bright as M13, but its stars are more tightly packed than those of M13. There are many galaxies in the Coma Berenices area, but my favorite one is NGC 4565, located about 3 degrees east of the fourth magnitude triple star 12 Coma Berenici. This galaxy is a long spindle of light with a bulge at the nucleus and a conspicuous dark lane down the center. All of this detail can be seen in an eight-inch telescope under good conditions, and larger scopes show even more detail.

Finally, look just north of the 5th magnitude star 5 Serpens Caputi for the bright globular cluster M5. Visible in binoculars, this globular resolves into a multitude of faint stars when viewed in a six- or eight-inch telescope.

--DAVID KNISELY

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 1-year subscription to SKY & TELESCOPE, club newsletter, and 4 quarterly issues of THE REFLECTOR, journal of the Astronomical League) is \$14.00. Family membership (which includes all regular privileges, plus one additional vote in club elections) is \$16.00. Newsletter Editor, Lee Thomas, 489-3855. Address all correspondence and membership renewals to: PRAIRIE ASTRONOMY CLUB, INC., P.O. Box 80553, Lincoln, Nebraska 68501.

Planet Search Continues

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will produce a recognizable pattern.

The only known planets are within this solar system, but Gatewood said "It's conceivable that the universe is teeming with planetary systems."

Astronomers in 1961 found that Barnard's Star, the second closest to the sun at six light years, had a slight "wobble", leading to speculation it has at least one planet orbiting it. Gatewood said it is one the

foundation will examine again.

The 50 stars Gatewood will examine next year are within 40 light years, or 240 trillion miles, of the solar system.

He expects the MAP at Allegheny Observatory to detect any planets the size of Jupiter or Saturn, and perhaps slightly smaller, around the stars he looks at.

"Of course, if we don't see those

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PRESIDENT'S REPORT:

First, a quick thank you to Russ Genzmer for all his hard work in making Astronomy Day 1981 a well-planned success.

Now, a few words about the A.L. Regional Convention. The details are contained in the inserted sections of this newsletter, but I want to stress a few things. Please make sure you register for the convention. It only costs \$8.00, but for that you get to participate in all activities, get an 8 x 10 group photo, and are eligible for door prizes. (Prizes will be given away at each paper session, but you must be present and registered to win.) Also, consider buying the meal ticket to eat your meals in the University cafeteria-- It's only \$10.80 for five meals. The greatest enjoyment to be received from a convention like this is in meeting and talking to the other amateurs interested in the same things you are. And a lot of this conversation and exchanging of information takes place at mealtimes when everyone is together in an information atmosphere. You won't want to miss this opportunity.

I would also like to ask our club members to please wear your club shirts when you attend the activities on Friday and Saturday (especially for the group photo). Our club should have a good turnout, and a lot of visibility what with our shirts and our displays. We have a fine club and we want everyone else to know about it!!

This convention is an opportunity for you to attend, right here at home, a gathering of astronomers from all over this region. I'm really looking forward to it as I hope you are. See you there.

-- RON VEYS

Planet Search Continues

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planets around those stars, that doesn't mean smaller planets aren't there," he said. "We can look at a given star and say there are no planets of Jupiter's size there. But if you're doing statistics, negative results are as good as positive ones."

Depending on the instrument's precision, Gatewood said, a MAP should be able to confirm not only the planets' existence, but also their number, masses and distances from the star as well.

The foundation now is trying to secure funding for a precision telescope to be used to examine 500 additional stars in the second phase

of the search.

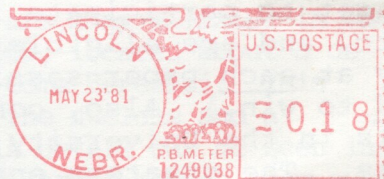
Gatewood said the instrumentation for the advanced telescope is under development at the University of Maryland, the Massachusetts Institute of Technology, California's Lick Observatory, and Hewlett-Packard Corp.

It would be constructed, he said, on a high mountaintop--possibly in Hawaii or California--"where the atmosphere is best for seeing."

OBSERVATORY NEWS...

The Observatory's new Clear Light slide dissolve unit and cassette deck have now been installed, and a new slide program, "Saturn", produced for public nights. We need more volunteers to help through the summer. Sign up now!

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