Astronomy News

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On September 30, 1989, astronomers from across the state gathered in Ames to attend the Iowa Astronomy Convention. Sponsored by state astronomy organizations, the convention brought together astronomy professionals, teachers and hobbyists for the first of what is intended to be an annual event.

Very likely, the audience best served by such a convention is the science-teaching community. Here is an opportunity to catch up on recent astronomical discoveries and research of particular interest to Iowans without traveling very far.

In one of several informative invited talks, Drs. Lee Anne Willson and George Bowen of Iowa State University discussed the so-called "Iowa State Heresy," a controversial new theory developed at ISU. The theory suggests that stars like the Sun undergo significant evolution earlier in their lifetimes than has previously been believed. Furthermore, this evolution would take place at a time before the current age of the solar system. If this is so, our Sun once looked and behaved very differently than it does today. This theory has implications for a variety of astronomical mysteries including the formation of the planet past.

The following list, taken from the recent directory of astronomy organizations published in Sky and Telescope magazine, contains the names and addresses of contact persons for astronomy clubs represented at the 1989 Iowa Astronomy Convention. These people are able to provide information pertaining to their club as well as to the 1990 convention, tentatively set in Des Moines.

Ames Area Amateur Astronomers
(hosts of the 1989 IAC)

Mr. David Oesper
1208 Wilson Avenue
Ames, Iowa 50010
(515) 232-8705

Cedar Amateur Astronomers
Mr. Doug McCloy
Ambroz Art Center
Mount Vernon Road
Cedar Rapids, Iowa 52401
(319) 485-3298

Des Moines Astronomical Society
Mr. C.L. Allen
2307 49th Street
Des Moines, Iowa 50310
(515) 274-1873

Quad Cities Astronomical
  Society
Ms. Andrea Schneider
P.O. Box 3706
Davenport, Iowa 52808
(319) 324-4661

Southeastern Iowa Astronomy
  Club
Mr. James Blair
610 Walnut
Burlington, Iowa 52601
(319) 753-2509

The authors also may be contacted for help in finding an astronomical organization in your area.

Astronomy Resources

"The locus of points such that the sum of the distances between each point and two other fixed focii is constant." This definition of the ellipse, that figure from geometry so important to the understanding planetary and stellar orbits, may be familiar, yet it often remains confusing. We find that creating an ellipse in front of a class as we discuss its features helps to clarify this mathematical definition.

Two round kitchen magnets (usually sold in sets of two or more) can be attached to a metal blackboard. (For a nonmetallic board, small suction cups can be applied with glycerin.) These magnets form the focii of the ellipse. A string is draped over the two magnets and then pulled taut by placing a piece of chalk in the loop and pulling the string away from the magnets with the chalk. The ellipse is created by pushing down on the chalk against the board while at the same time moving the chalk around the taut string loop.

We point out to students that the distance around the now triangle-shaped loop is constant. Indeed, as the length between the two magnets also remains constant, only the segments between the chalk and the magnets change in length. As the ellipse progresses, sometimes the length between the chalk and the left magnet will be long and that between the chalk and the right magnet will be short and vice versa. However, as the total amount of string does not change, the sum of the two lengths leading from the chalk must remain constant.

The size of the ellipse can be changed by using different lengths of string. The eccentricity can be changed by altering the separation between the magnets. This demonstration works best for an ellipse with a fairly large-eccentricity where the distance between the magnets is more than one-third the entire length of the string.