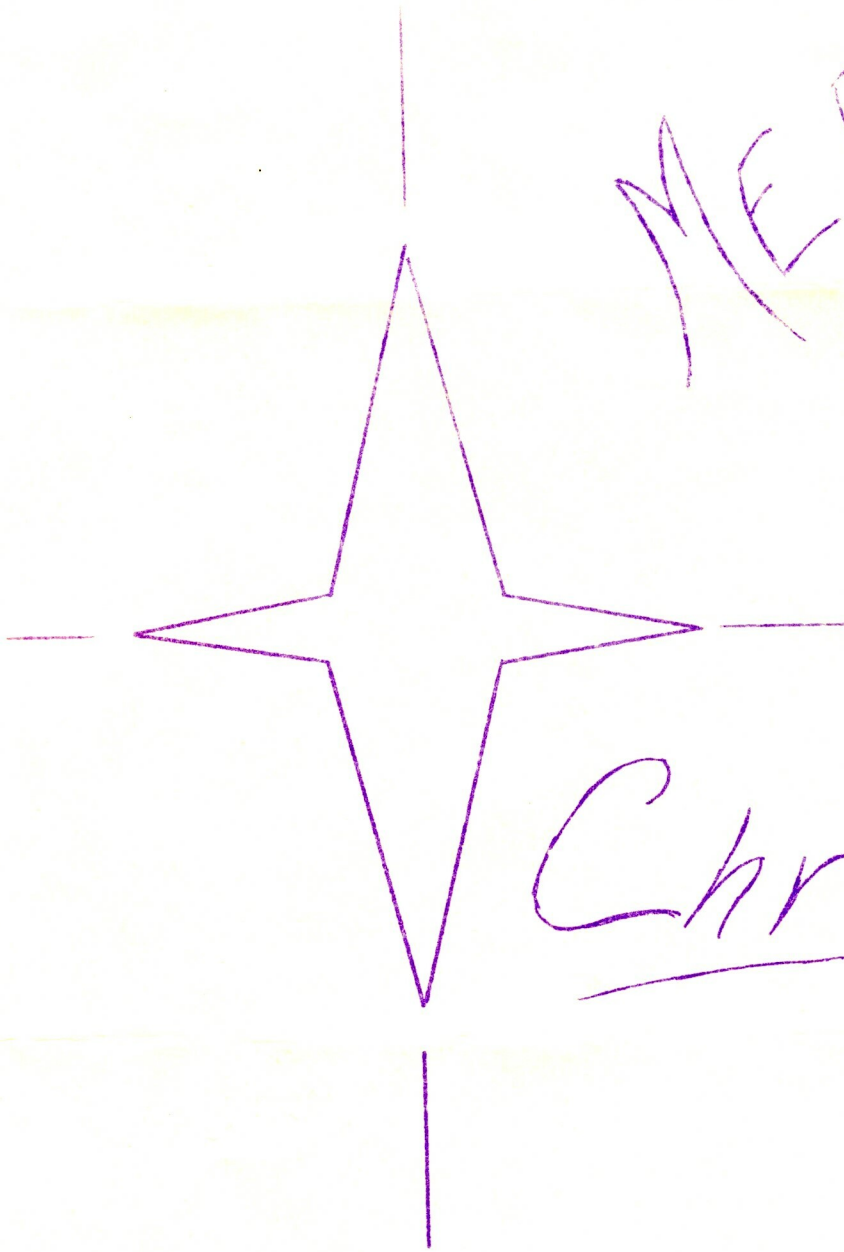


12-67

PAC

MERRY



Christmas

THE PRAIRIE ASTRONOMER

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EDITORIAL

As winter approaches, observing will be cut to a minimum. However, some upcoming events will be a trip to an Iowa observatory sometime in February, and of course the Mid-States Astronomical League convention in Columbia, Missouri on June 28, 29, and 30.

Since our club has become a member of the Mid-States region, we have been cooperating with the St. Jo club and other Mid-States clubs in many programs. These include the grazing occultation of Saturn, the recent trip to Fremont's Midland College, and the past convention in Wichita. The St. Jo club along with the Omaha Astronomical Society will also participate in the visit to the Iowa observatory. I would like to stress that if at all possible, you should attend the up-coming events such as the convention. I guarantee that you will have an informative and enjoyable time, plus you will have to pleasure in meeting many fine people.

Have a very Merry Christmas, and see you at the meeting.

-Scott Coatsworth

THE MEETING

This month's meeting will be held at the Nebraska Wesleyan old Science Building on December 26 at 7:30 p.m. There will be a lens auction and discussions of the upcoming spring and summer events.

Be sure to come!

THE PRESIDENT'S REPORT

Prairie Astronomy Club members had an enjoyable time on the Dec. 10th planetarium and observatory show in Fremont. In behalf of the club I would like to thank Dr. Lueninghoener for his invitation to our club to attend this fine event. The first part of the program was the special planetarium Christmas show. After that we were privileged to witness a special slide show that few people have seen. Dr. Lueninghoener has equipped his planetarium with a sort of "still picture cinerama". He has three slide projectors that simultaneously projects three correlated pictures on the inside of the dome. This gives the audience a 90 degree panoramic view. The scenes of the Grand Canyon were breathtaking to say the least. We adjourned for the evening meal at a local restaurant. About 7:00 we re-assembled at the observatory and had a good look at some of the fine telescopes. We had cloudy weather, and as a result, we didn't get to do any observing. The Omaha and St. Jo clubs also attended this program.

It has been suggested that since our club is having a little trouble in raising money for the telescope, that we sell it. Some people have given quite a bit of money to help pay for this 'scope, but we need more. If it's all right with those who have given money, then it is ok with me to sell it. Of course

the money we get for selling the scope will have to pay the debt. The balance left over will have to go into the treasury. After a considerable build-up in the treasury we then will go ahead and make the down payment on the new scope that we will soon want.

Earl Moser

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In recent months an improved method of taking long time exposures has received quite a bit of attention. This is the use of cooled emulsions, in a cold camera. By lowering the temperature of the film to -100°F or lower one can greatly decrease reciprocity failure on long exposures. This means that an exposure which would take an hour under normal conditions would take about 15 minutes using a cold camera. However, there are several technical problems involved which have to be solved before the camera can be used effectively.

One of the main problems is frosting of the film. A small amount of frost can ruin an exposure, so some means must be found to avoid this. Some designers have enclosed the film in a vacuum-tight case with an optically flat window over the opening. Others have dried the air inside the camera and then sealed it. Rick Johnson suggests using "dried nitrogen" gas in the camera, which he can obtain in an already-dried form. Whatever method is used to prevent frosting, another problem must at the same time be overcome.

The plastic used in film becomes very brittle when it gets cold, making it difficult to change frames, since the slightest bending of the film will make it break. One answer is to warm the film between shots, wind it, and then re-cool it. Another would be to use a long straight section of film between the end rolls so that the film could be positioned for two or three separate exposures before it needed winding. However, all of this is difficult if the film is in a vacuum. I have seen two good cold camera designs in Sky and Telescope, in the December 1965 and December 1967 issues, which solve both of these problems. However, these are fairly complex, and would be difficult to construct.

Perhaps one of our club members could come up with a more simple design. It would be a good project to work on during Christmas vacation.

Larry Stepp