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Announcements

CAS Dues Increase

Effective October 1, 1992 annual dues will increase by $4 for each membership classification.

Adult dues — $20; Junior (under 18) — $15; Family — $25. This small increase is necessary to offset the rising costs associated with printing and mailing the Sidereal Messenger.

Attention 7-12 Grade Students

The Mikio Suo telescope is once again available for loan. This telescope is an 8"-f/6 Meade newtonian reflector complete with mount, tripod and drive corrector. The telescope will be made available to a junior member or son/daughter of a regular member of CAS.

Please contact Grant Martin (474-2659) for complete details.

Upcoming Meeting Changes

Please make a note of the upcoming CAS regular and board meetings:

October 16th, 7:30 PM — Board meeting and annual budget meeting at CAS headquarters

October 24th, 8:00 PM — Annual Dinner at Red River Cattle Company, Montgomery Rd.

November 20th, 6:30 PM — Monthly board meeting at Gilbert Avenue Planetarium

November 20th, 8:00 PM — Regular meeting at the Gilbert Avenue Planetarium

Astrofest 1992 Report

by John Schroer

The 1992 Astrofest was held at the 4-H camp near Kankekee, Illinois from September 18 to September 20. Sponsored by the Chicago Astronomical Society, this year brought a record 650 registrants; making Astrofest one of the largest astronomical gatherings in the country. Only Riverside and Stellafane are larger, and equal in size to the famed Texas Star Party.

Driving there on Friday afternoon, the weather was cloudy from Cincinnati until we reached Remington, Indiana; which is an hour or so north of Indianapolis. The skies became clearer, and the temperature dropped to a very comfortable 70 degrees. By the time we arrived at the site, everyone was anticipating a weekend of observing.

The observing field was already quite full with tents, campers, and telescopes of every description and size. Several Obsession and Astro-Physics refractors were set up, waiting for dusk to begin their exploration of the heavens.

While the flea market does not normally open until Saturday morning, some folks were already looking for bargains as the booths were being set up. The record crowd was matched by the large number of folks hawking their wares in the market.

Venus greeted us as twilight fell upon Astrofest Friday night, soon to be followed by Saturn in Capricornus. As the Earth turned and the stars wheeled overhead, the many splendors of Sagittarius, Scorpius, Scutum were explored with Dick Wessling's new 18" Dobsonian and O-III filter. The Veil Nebula in Cygnus, Omega Nebula in Sagittarius, and others were incredibly detailed with the telescope and filter combination. As the evening turned to night, M31, the Pleiades, among others were viewed.

While the nights were clear, the seeing was moderate to poor; due to the recent passage of the cold front that had swept the clouds away. But observing was not limited to the evening. Daytime observing of the Sun with white light and H-Alpha filters was a popular activity.

But a troublesome sign was becoming more evident this year. Kankekee's growth into a city was clearly marked by an large increase in the light pollution to the east. This development, along with the growing attendance, will probably force a change in location in the near future.

The Cincinnati contingent was made up of: Ed Jones, Jim McKinley, Bill Meyers, Paul Morgan, Steve and Sue Rismiller, John Schroer, and Dick Wessling.

This is an event that more C.A.S. members should attend. With good skies, a large selection of telescopes to see and look through, and its close location; it is well worth the trouble. U

Astrofest 1993 will be held on September 10, 11, and 12. For more information, contact: Astrofest P.O. Box 596 Tinley Park, Ill. 60477*

Building Messier 10

By Mike Lockwood

Each handmade telescope in this light-polluted world of ours has its own unique life story. The scopes which last longest were brought up in a loving home, by caring, mechanically inclined "parents." They were given a smooth, shiny finish of polyurethane or paint, and built with good quality wood and strong glue to ensure toughness over the ages.

Other instruments were spoiled by a rich "parent" with digital setting circles, periodic error correctors, and CCD cameras so the "parent" could play the role of

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Building Messier 10

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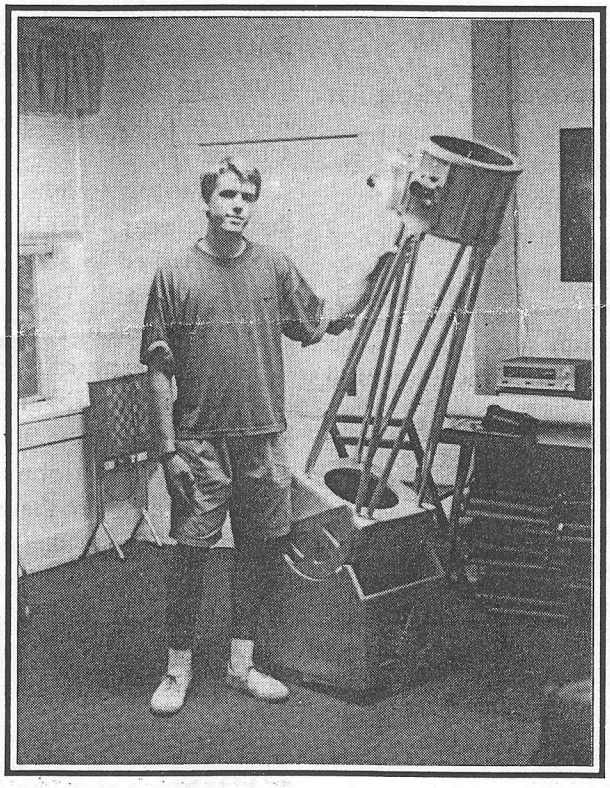
the "couch potato observer"; one who watches from a Lazy-Boy while images flash bleakly and boringly onto a computer monitor.

Occasionally though, the butler of this "parent" would treat the telescope with respect by disconnecting the CCD and inserting an eyepiece on an early morning observing session.

On a sadder note, many young telescopes are abandoned before they mature, doomed to wear a tarpaulin and live in a dusty tool shed for the rest of their optical lives, even though they still hunger for starlight and thirst for the soft glow of the Milky Way. Finally there are telescopes which will never be born: the ones which live solely in the mind of the would-be "parent." They are the victims of astronomical birth control, which can be either lack of funds or an uncompassionate spouse!

My new 10-inch telescope was abandoned: left to lie forever in the CAS basement. . . until I adopted it. In keeping with the philosophy of the 90's, one could say it was recycled. Let's face it. Wastefulness is out.

So when I saw a black tube lying on the floor in the basement of the CAS, separated from its mounting and gathering mold, I thought of ways to save the scope. It consisted of a 10-inch mirror, a nice 50mm finderscope, an equatorial mounting, and a large tube holding everything.



Mike Lockwood and the newly "adopted" Messier 10

It must have been quite a showpiece in its original glory, which, sadly, was long past. A quick inspection later, I was hooked. After making arrangements with the CAS board, I purchased the telescope, and I arrived one afternoon to pick up my new "child." I assessed the situation.

It was clear that I would need to redesign and rebuild the scope to suit my needs. The tube was rusty and consisted of more mold than metal. The equatorial was in need of a cleaning, a paint job, and probably a new motor. I resolved to save it for a future planetary scope. The mirror coating was transparent in some places, and tarnished in others. However, all the finderscope needed was a good cleaning.

With the help of John Cluxton, (many thanks, John!), I disassembled the scope. About an hour and a half and several hundred sneezes later, (due to the mold spores), we loaded the thing in my car and I slowly drove home. The mirror was washed, and with the help of my chemistry teacher, the coating was stripped. (Thank you Mr. McCullum!)

I rebuilt my Focault tester, took measurements, and determined it to be a smooth, quarter-wave mirror. Much of this error, however, can be explained by a moderate central hump, and a slightly raised edge. The other zones are right on the money. I plan to refigure the mirror in the future. (Thank you for your advice, Dick Wessling!)

Next came the design. I liked the ideas of David Kreige, whose telescopes, Obsession 1 & 2, were featured in *Telescope Making* issues 35 & 37. I had already decided on a break-apart Dobsonian telescope for its portability, with a serrier truss for rigidity. The mirror would be mounted on a flotation cell in the rocker box, which would be large enough and have a door to provide a safe place to store the diagonal cage.

Everything would be as lightweight as possible without losing rigidity. I had built 2 telescopes before Messier 10, the 2nd being an 8-inch. Since it took me a month to build the focuser for it *after* I had the rest of the scope finished, this time I decided to start with the focuser. It still took a month, and evolved throughout construction. It is a modified Crayford focuser with a barrel made of 2-inch copper tubing riding on four 5/8-inch diameter bearings bolted to aluminum angle. A stainless steel rod riding on Teflon bearings turns against the tube to focus it.

Besides being the smoothest focuser I have ever seen, it also has a very low profile, allowing use of a 1.52-inch minor axis diagonal mirror for a 15% obstruc-

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CAS Committee Reports

CAS Board

Grant Martin noted that the 8" Mikio Suo telescope was returned to CAS by Keith Reilage. Keith used the scope at a summer camp to teach astronomy and help some of the boys qualify for merit badges. Grant noted that the scope was returned in excellent condition and that it is again available for loan. A notice will be placed in the upcoming Sidereal Messenger.

Curt Cummins noted that Graham Davis will be talking to a realtor about a plot of land in Adams Co. near the Cincinnati Nature Preserve. Details on Graham's meeting will be made available at the next board meeting.

Membership

The CAS would like to welcome the following new members:

Tom & Kathi Thinness
David Underwood

Messier 10

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tion ratio. I then built the diagonal cage to fit the focuser.

I purchased one sheet of 3/4-inch birch veneered plywood, and laid out the outlines for the entire telescope before making a single cut. They all fit, with a piece 14" x 48" to spare. (I plan to make a table for my eyepiece case with it.)

I cut the rings and sanded the curved surfaces (and all curved surfaces to follow) with curved sanding blocks matching the radius of the piece to be sanded. This produces near-perfect curves. I drilled holes for the 3/4-inch dowels which serve to brace the cage, and screwed the whole thing together. The focuser and spider were installed, and aluminum angle was added to reinforce the focuser board.

Next I tackled the rocker box, which houses the mirror permanently and the diagonal cage when the scope is in storage. The trickiest part was getting the pieces square on a table saw, while keeping them the proper dimensions. (Thank you to my dad for helping me raise some sawdust.)

Assembly was aided by the use of a drill press and a countersink/counterbore bit for #8 wood screws. The top door was installed, and the brackets for the poles of the serrier truss were fastened to the sides. I had already completed a 9-point flotation mirror cell, with spring loaded adjustment knobs, (no push-pull bolts ever again!), and this was bolted to the box.

The mount was easy to build after all this. I used Ebony Star Formica, manufactured by Wilsonart, for the azimuth bearing surface. It was already glued to 3/4-inch particle board. (Thanks to the Griffith family for the Formica.) 1.5 inch PVC pipe caps performed well as feet for the mount. Next came sanding, and sanding, and more sanding—two days total.

Finally I was ready to inhale some Polyurethane vapor... and I did it for 4 days, sanding between coats. I made the side bearings, which consisted of half-moon shaped pieces of 3/4-inch plywood with 1/8 x 3/4-inch wide aluminum bar stock running around the edges for bearing surfaces. After these were bolted to the rocker box, I trimmed all the poles to exactly the same length (ensuring interchangeability and collimation), assembled everything, and mounted counterweights and a finderscope.

Final touches were hastily added the day before we left on vacation... a vacation to northern Michigan that had no clear nights. Oh well, at least it's finished. According to my logbook, Messier 10 was built in about 110 hours, at a cost of $295. The hours are on the conservative side, because I counted only actual work, not contemplation or fits of cursing!

I lost sleep, skin, a few brain cells (due to the polyurethane), and a lot of free time to this project, spread out over about seven months. But all the experience I gained will make the 25-incher a lot easier to build after I get out of college. Dark skies, and good seeing. ✷