



The S*T*A*R

SPECTROGRAM

The newsletter for the Society for Telescopes, Astronomy, and Radio

Vol 2., No. 2

October, 2001

October's Meeting

The next meeting of STAR will be Thursday, October 4, 2001 at 8 PM at the Colts Neck Fire House #2 on Conover Road in Colts Neck.

This meeting will feature a showing of David Malin's video, "The Man Who Colors Stars". Until July 2001, David Malin was a photographic scientist- astronomer at the Anglo-Australian Observatory. Many of his images can be viewed at <http://www.aao.gov.au/images/>. As part of his work at AAO, he developed several techniques for extracting information from astro-photographs. These techniques, along with several of his photographs, are featured in tonight's video.

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From the Editor

The Spectrogram is your newsletter and needs your support. Articles may be submitted to Greg Cantrell at monthly meetings or electronically at cantrell@optonline.net.

Calendar

September 6, 2001

What I did on my Summer Vacation

October 4, 2001

David Malin's video, "The Man Who Colors Stars".

November 1, 2001

Dr. Eddie Guerra
Assistant Professor
Rowan University Department of Chemistry and Physics

December 6, 2001

Dr. Michael Strauss
Associate Professor
Princeton University
Department of Astrophysics

January 3, 2002

TBA

February 7, 2002

TBA

March 7, 2002

TBA

April 4, 2002

Dr. Edward Devinney
Senior Associate Director
Rutgers University
Center for Advanced
Information Processing

May 2, 2002

TBA

June 6, 2002

TBA

Notes from September

Colts Neck Firehouse (between the trucks)

STAR held its first meeting of the 2001-2002 year at 8PM on Saturday, September 6, 2001. The meeting was fairly well attended with about 30 to 50 people in attendance.

Short announcements:

1. Randy (Walton?) made the point that Meade will only service for warranty scopes that are purchased through authorized dealers.
2. Mike Lindner asked for volunteers to partner with Kim, a 6th grade Howell teacher, to help out with teaching astronomy. The information will be posted on our web discussion board.
3. Jay Respler announced a star party for Thursday, 11/15/01, in Millstone. He is asking for volunteers.
4. Paul Nadolny asked for membership renewals.

Main Program:

There were four main speakers in this night's program. All speakers were STAR members talking about telescopes and observing.

1. **Steve Walters:**

Steve gave a great tour of his newest "baby" (or, most expensive?), a Takahashi Baker-Ritchey-Chretien, about 10" in diameter with about an f/5 focal length. (Steve, let me know if I got this right). He has it mounted on a portable (yeah, right) Mountain Instruments MI-250 pier. The principle use of this scope is for astrophotography. For guiding exposures, he's using an SBIG STV autoguider. His camera body is a 6 by 9 format, but is not ready yet: he's making modifications to blow hot air into the body of the camera to keep the film dry (well, actually he's going to use a small purge flow of nitrogen, but I couldn't resist). For film, Steve takes two pictures: a black and white image using

hypered film to capture fine detail, and a color negative film to capture the true colors. His exposures are typically about 30 min long. He transports his film to the site in a vacuum chamber, which I think he build himself. The images are scanned commercially and returned to him, and then he does some image processing to put the pictures together.

Steve credits (blames?) Dave Segelstein as the inspiration to acquire both the scope and the mount to take high-quality astrophotographs. The necessity to improve all the aspects of astro photography when he got a better scope, Steve blames on Walter's Law, which goes something like: "If you improve one aspect of your equipment or technique, you will find that you will need to improve almost all other aspects of your equipment or technique in order to realize the full capability of your major investment". Steve also gave several examples of his astrophotography, and seemed to take pleasure in pointing out flaws in the images, and how he anticipates correcting them in the future.

When asked about the cost of this set up, Steve invoked the old saying, "If you have to ask how much it costs..."

2. **Andy Zangle**

Our vice-president, Andy Zangle, gave a refreshingly low-tech exposition of his family's vacation in Hawaii, and how he decided to bring his telescope with him instead of his golf clubs. Of course, he cleverly disguised his telescope as a set of golf clubs, and packed it in his golf bag. He used his 8" Celestron dobsonian, with some special modifications. He visited Maui, and took his scope to the top of Haliakala (about 10,000 ft above sea level, at the end of an incredible 38-mile road). Andy treated us to several photographs showing the beauty of the place, and said that you could actually see the Keck observatories from the summit (about 100

mi away!). His images of sunrise were spectacular. His description of the night sky from that area was captivating.

Andy also showed us his own astro-photography image processing of some of the pictures taken during his nights of observing. Andy allowed that he would need much less image processing if his sense for orienting items in the dark were further developed.

3. **Mike Lindner**

Mike treated us to a technological tour de force in the field of amateur telescope making. He demonstrated one of his recent projects, the rebuilding (I would say building) of a 13.2" Coultter dobsonian (except that it can no longer be called a Coultter because he had the mirror reground and recoated).

Mike acquired a 13.2 f/4.5 Coultter that weighed about 110 lbs (base and optical tube assembly). He then showed us what could be accomplished with a little ingenuity, creativity, and about 1% (well, maybe 2-3%) of the budget some of our members (like one of the previous speakers) use for their equipment (admittedly, a 30 min exposure through Mike's scope might look kind of strange).

Mike built what he called a "scope on a rope", which is essentially a truss-type collapsible scope, which can be assembled in about 10 min, without tools. The heart of the scope, the mirror, is in a box, which uses silicon glue to hold the mirror in place (so it does not fall out at extreme angles). A very handsome looking circular assembly, which mounts to the box, holds the secondary mirror and eyepiece in place, by several lightweight tubes. To give structural stability, Mike uses guy wires to hold the secondary mirror structure to the base. These guy wires provided a way to "tune" the scope, in ways completely unexpected.

In keeping with Mike's low-cost philosophy, the cover of the secondary mirror was provided by Whitecastle, in the form a large plastic cup.

Mike promised that the optical tube assembly of the original Coultter would go to Dan Pontone, as Mike's inspiration for acquiring the Coultter in the first place.

4. **Ernie Rossi**

Ernie gave us a very clear demonstration of his "mustang-special" dobson mount, that is probably about 20+ years old (correct me if I'm wrong, Ernie!). One of the points of Ernie's talk was that it is not too difficult for the average person to actually build a serviceable dobson mount. Ernie built his mount out of plywood, building a small box to house the optical tube assembly. He used PVC plumbing fixtures as the tube-mounted altitude bearings of the scope, resting in a cut-out area of the plywood. Redundant teflon pads in this cut-out area served as the bearing on the mount.

The scope that Ernie uses with this mount is an equally old Meade 10" f/6 scope with excellent optics. Ernie uses a hose clamp to hold the finder scope on.

The original requirement for this mount was to fit into Ernie's Mustang, so he could drive the scope to a good place to use it. Even after this much time, the mount still works well for him (and probably still fits in his Mustang!).

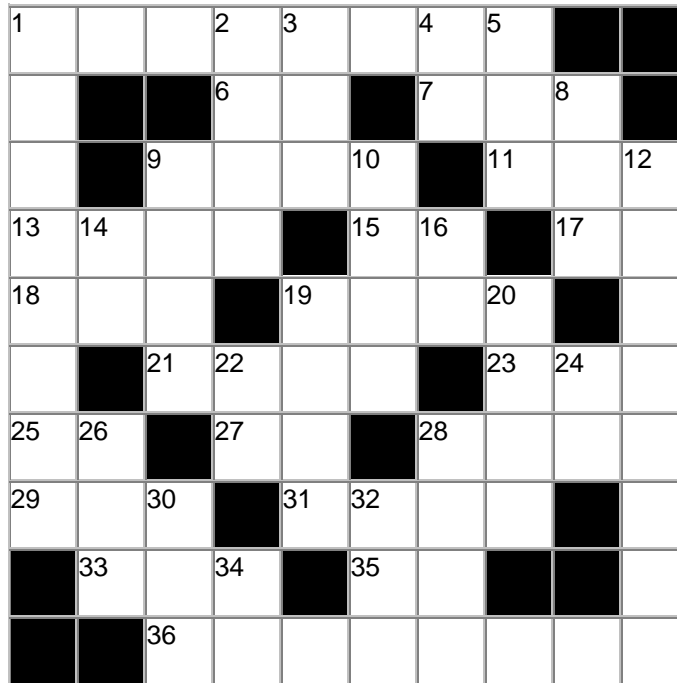
Next STAR Meeting:

Our next meeting will also be in the Colt's Neck Firehouse. STAR's board of directors is actively looking for another more suitable meeting place.

Respectfully submitted,
Chris Olszewski

Astronomy Crossword Puzzle

by Mike Lindner



Across

1. A tracking rate
6. Red giant variable, ___ Geminorum
7. Diet cola
9. White part of orange
11. Tri___
13. Fish food
15. See 14 down
17. Either's partner
18. ___ Ophiuchus nebulae region
19. Wing-like
21. Bill Gates
23. ``___ now brown cow''
25. Train abbrev.
27. Not you
28. Lease
29. Lens spacer, sometimes
31. Where 60mm 500x refractors are made
33. What most DSOs are
35. Not out
36. Look in here!

Down

1. M104
2. Give off
3. Groove
4. ___ opposition; 180° away from
5. Mirror polishing tool
8. Exclaim heard as clouds move in
9. Lightest meson
10. ``...to have and to ___''
12. Where to put 36 across
14. ``I can see the veil!''
16. Exclaim heard as clouds clear out

Down (cont'd)

19. An 8" has almost twice as much of this as a 6"
20. South American ostrich
22. Printers' measure
24. How to set your dew heaters in NJ
26. Disencumber
28. Maker of 36 across, Paul ___
30. 60mm 500x refractor claim
32. Drink coffee while observing
34. Not your

Upcoming Events

October 12 – 14th - The 5th Annual South Jersey Star Party, hosted by the South Jersey Astronomy Club in Belleplain State Forest in Cape May

County, New Jersey. For more information, visit the following web site:
<http://members.aol.com/sjastroc/sjacsp1b.html>

October 12 – 14th - Stella Della Valley XV, hosted by the Bucks-Mont
Astronomical Association in Camp Onas, Ottsville, Pennsylvania. For more
information, visit the following web site:
<http://bmaa.freeyellow.com/page1.html>

November 3rd – Jersey AstroConference and Showcase 2001, hosted by
Amateur Astronomers, Inc., Union County College, Cranford, New Jersey.
For more information, visit the following web site:
<http://bmaa.freeyellow.com/page1.html>