

U-M
LOWBROW
ASTRONOMER

NEWSLETTER

THE LOWBROW CORNER

by: Don Luttermoser

This column will talk about the club's activities. In case you were not at the last meeting, we elected officers. Jim Cypser is the Lowbrow's first president, Jeff Zeihm was elected Secretary-Treasurer, the observatory director "Sky-King" is none other than the irrepressible Doug Nelle.

Three people volunteered for the office of Public Relations & Propaganda. They are Erin Stewart, Sky Baldwin, and Don Luttermoser as the beaver.

If you ever need to find info on anything, continue reading and don't fall asleep:

General information & complaint department:
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Finally this columnist got a scope or is that scoop?, on all the national astronomy magazines. I had a recent interview with none other than Dr. William Kaufmann III, in which he talked to me about the now infamous Mt. St. Helens.

He explained to me that the reason it exploded when it did was because the planets all aligned at that instant. When asked how come nobody observed this alignment, he exclaimed that they jumped in alignment when nobody was looking, then after playing havoc on the mountain they went back to their original positions.

Asking him if that might be a little too far-fetched, he replied: "If it wasn't that, it was due to a black hole inside the mount."

24-inch TELESCOPE NOTES

by: Jim Cypser

We've finally managed to loosen the three bolts on the back of the 'scope, which are vital to aligning the primary and secondary mirrors. With these we can adjust the primary mirror in directions parallel to the line-of-sight of the telescope. The optics aren't perfectly aligned ("collimated"), so the images of the stars and planets are still distorted. What's stopping us from collimating the thing, you ask? In order to make the images nice and sharp, we need to have the telescope tracking. That way the star images won't drift out of the field of view in the time it takes to make a single, careful adjustment of the mirrors. So, the first priority is to get it tracking accurately again.

On the weekend of the 7th, we had some guests come along with us to Peach Mountain to look at the telescope. Our guests were Steve Innes and Norb Vance of the Ypsilanti Club; and Bill Jolly & company of the Livonia Club. Bill has had some experience with large telescopes, and we're taking him seriously on any advice he gives us on some of the more technical questions.

Here's what's happening in the sky between now and the July meeting, so "look sharp"!

Neptune at opposition:	12th
Mercury, greatest E. elongation:	14th
June Lyrid meteor shower--pretty good	16th
Ophiuchid meteor shower--pretty bad	20th
Summer solstice, 1:47 a.m. E.D.T.	21st
Mars-Saturn conjunction	25th
Alpha Draconid meteors (maybe)	27-30th

NASA's Space Telescope, a multi-purpose optical telescope planned for launch into orbit by the Space Shuttle, may enable Man to piece together the puzzle of the universe: how it began, how it grew, how it is changing, and how those changes will effect Earth. The Space Telescope will allow scientists to gaze seven times farther than ever before, possibly to the edges of the universe.

Contributions. The Space Telescope will contribute to the study of little understood energy processes in heavenly bodies, the early stages of star and solar-system formation, and the observation of such highly-evolved objects as supernova remnants and white dwarf stars. The clear images provided by the Space Telescope will enable researchers to better evaluate the mass, size, shape, age, and evolution of the universe. With this telescope, scientists can look at galaxies and other cosmic structures so distant that the light we are receiving will show them as they existed billions of years ago. They may reveal much about the birth and growth of our own galaxy.

The Space Telescope can search for planets that may orbit other stars in the same way Earth orbits the sun. Data about other planetary systems--or lack of them--will reveal much about the basic processes of the universe, and indicate the potential for other life in space.

Within the solar system, the Space Telescope can monitor the atmospheric and surface phenomena of the planets--the kind of information needed to build and equip spacecraft for further exploration.

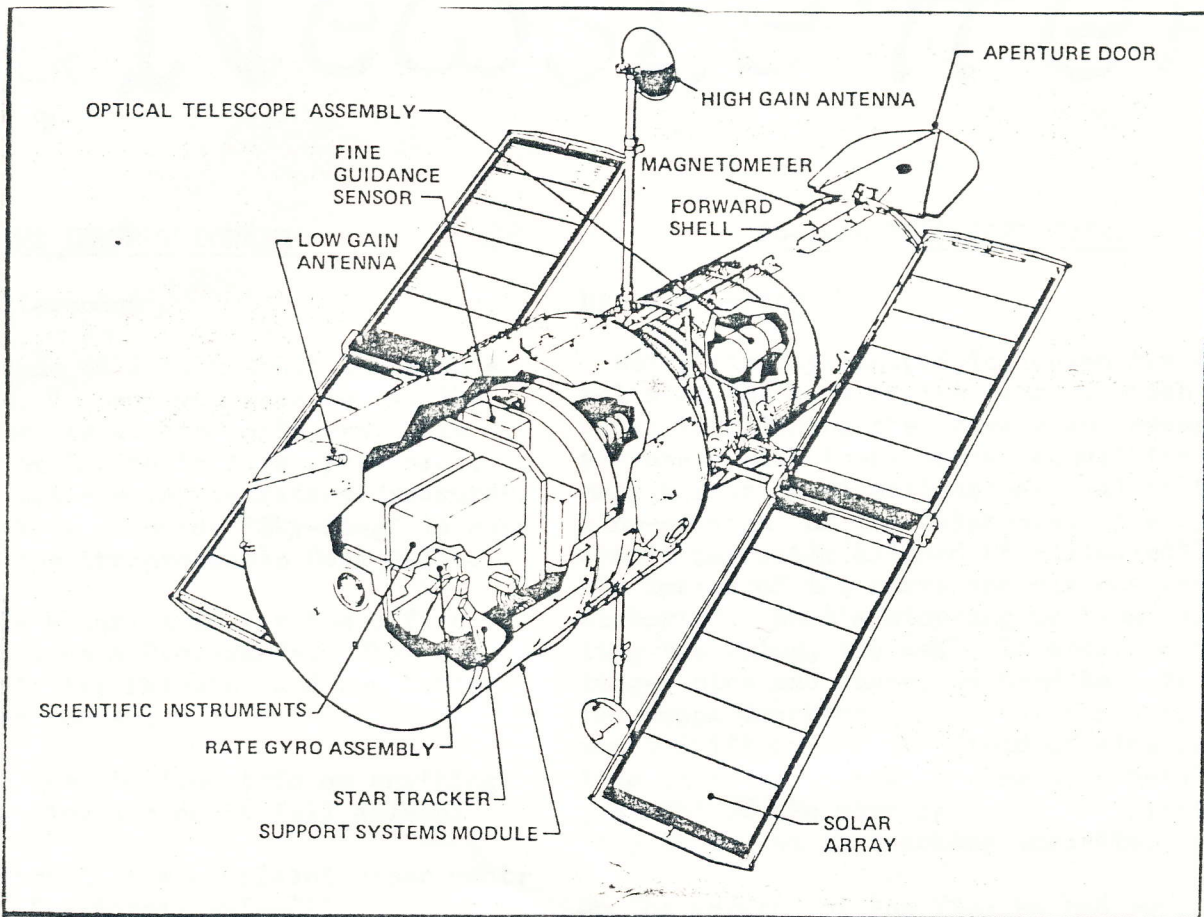
Answers to problems on Earth may be provided by the Space Telescope. Just as the study of the sun first confirmed the principle of nuclear fusion, so may the investigation of cosmic power sources help solve terrestrial power problems. For the first time, with the Space Telescope, the mysterious and intensely luminous quasars, which radiate more power than an entire galaxy can be seen well enough to investigate these possibilities.

Capabilities. The largest Earth-based telescope in operation today is the 6-meter (236 in) telescope in the Caucasus mountains of the Soviet Union. It can see an estimated two billion light years or about 12 billion trillion miles, into space. But this telescope, like all Earth-bound seeing devices, has a distorted vision because the Earth's atmosphere smears the light and blurs the view.

By comparison, the smaller Space Telescope will be able to see much deeper. The Space Telescope will be a long-lifetime device with a main reflector 2.4 meters (about 8 feet) in diameter. It will weigh about 20,000 pounds. It will have a length of 43 feet and a diameter of 14 feet. With this instrument, astronomers will observe some 350 times the volume of space that can be seen now.

The Space Telescope will orbit the Earth at an altitude of approximately 310 miles at an inclination to the equator of 28.8 degrees. With orbital observation, there are no atmospheric components to absorb ultraviolet radiation (shorter than 0.3 microns in wavelength) from stars. Thus, the Space Telescope will be able to make observations in the ultraviolet range of the spectrum, a feat no telescope based on Earth can accomplish.

More information on the Space Telescope to be forthcoming in future issues.



Space Telescope configuration and instrumentation