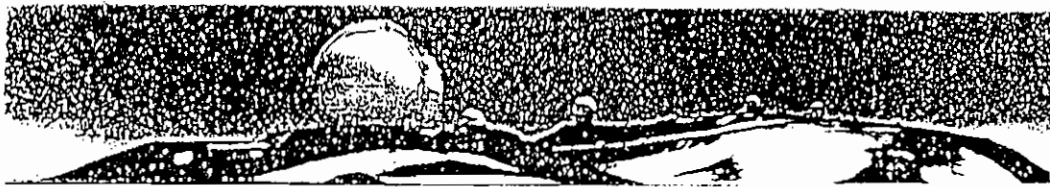


# Mauna Kea Astronomical Society Newsletter



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Volume XIII, Number 2

February, 1993

## December & January Star Party Report

by Wayne Fukunaga

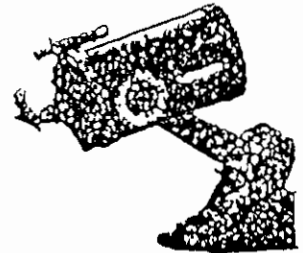
The Star Party which was scheduled for December 19, 1992 was not well attended (or attended at all!). Most of the "Regulars" went on the Ahu a Umi expedition instead. Tim Carroll and Howard Yamasaki were busy with work and could not attend.

The Star Party scheduled for January 23, 1993 was also not well attended, but with good reason. Our Star Party Coordinator, Tim Carroll, was "Off the Planet" during December and most of January working as telescope operator at the UH 88-inch Telescope, moving house, AND ARRANGING HIS WEDDING to Denise this coming February 6th. The list of Star Party dates which need to be cleared with the State before becoming official "fell through the cracks". The only MKAS attendees were Tim Carroll, Denise Trombola, Wayne and Verna Fukunaga, and of course, Donald Burciaga, the Visitor Center Operator. Tim and Denise setup their 13.1-inch Dobsonian, and Wayne and Verna setup their 10-inch Newtonian. It was Cold (42F) from the very beginning and breezy. Although the sky was clear, atmospheric turbulence discouraged high power eyepieces. Mars was attempted with little success at 237 power. Between the poor seeing and the wind gusts, the image was impossible to decipher. Venus at just past half phase, boiled in turbulence. Tim

Carroll estimated that the seeing was an 8 on the 1 to 10 scale.

About 20 University students showed up for the 7:00 PM Visitor's Center presentation and stayed until 9:00 PM to stargaze with the MKAS members. Also, three members of the Hawaii Astronomical Society from Honolulu were visiting and just barely braved the cold. They reveled and marveled seeing familiar objects with new appreciation from our contrasty, dark site. Objects observed were: M42, M43 Great Nebula in Orion, Double Cluster in Perseus, NGC2261 Hubble's variable nebula, M79, M31 Great Nebula in Andromeda, The Pleiades, Mars, and Venus. Witnessing someone seeing The Great Nebula in Orion (or Saturn) with their own eyes for the first time is always more than enough compensation for hauling a telescope up the mountain. After the guests left, Tim, Verna and Wayne tried to view the Horsehead Nebula. We located the star field, but were not able to detect the faint object. The temperature dropped to about 39F which convinced all present to seek a warmer climate. The Parking Lot lights were turned back on, and we all packed up and left.

The next Mauna Kea Star Party is scheduled for February 20, 1993.



### 1992 MKAS OFFICERS

President

Tim Carroll (934-7598)

Vice-President

John Flatley (968-8190)

Treasurer

Jim Skibby (883-8357)

Star Party Coordinator

Tim Carroll (934-7598)

MKAS Contact Person

Bruce Marten (969-7357)

### 1993 STAR PARTY DATES

AT HALE POHAKU

Note: All Dates are Saturdays.

February 20, March 20,

April 24, May 22

June 19, July 17

August 14, September 18

October 16, November 13

December 11

### Holoholokai Beach Events:

February 13, March 13,

April 17, May 15,

June 12, July 10,

August 7, September 11,

October 9, November 6,

December 4

## Holoholokai Star Gazing

by Wayne Fukunaga

The Holoholokai Beach Park Star Party fell victim to the bad weather system which assaulted the Big Island with high winds and cloudy skies. MKAS members Joann Durst and her family, Irene Kannakko, Jim Skibby, Beth and Billy Robards, and Wayne & Verna Fukunaga enjoyed a "Tail-gate" Party from 5:30 until about 7:30 PM.

An article in Astronomy Magazine sparked a discussion on the proper use of setting circles and the Sky coordinate system of Right Ascension and Declination. Irene Kannakko sought advice on accessorizing her Meade 60mm refractor. The consensus opinion was a clockdrive for the german equatorial mount and a .965" to 1

1/4" adapter for using MKAS eyepieces and filters.

This was the first meeting since the Ahu'a Umi Expedition and the expedition members rehearsed the adventure and discussed the data collected on the trip. Data reduction procedures have not been attempted yet, but the methodology has been laid out. Beth Robards expressed interest in reducing the data by hand, but did not own an engineering calculator (Yet!).

Even without a sky, we had a great time and contributed to the community on good. The next Beach Star Party is scheduled for February 13, 1993.

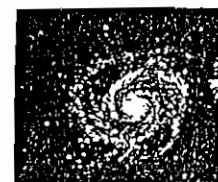
## Membership Renewals

Renewal of Membership should be done before the expiration date shown on the mailing label to avoid a lapse in the Newsletter and the *Sky & Telescope* magazine subscription. Annual dues are \$10.00 and if desired, an additional \$20.00 for *Sky & Telescope* magazine. Additional Family members are \$1.00 each. Please remit all dues to the treasurer at:

Jim Skibby, MKAS Treasurer  
P.O. Box 383311  
Waikoloa, HI 96738

## Quarterly Meeting Postponed

The quarterly meeting which was postponed until February may now be postponed until March 1993. Marcy Strate has been unable to arrange a speaker from the crew of the *Hokule'a* as planned. She will place an announcement in the local paper when arrangements are solidified.



## Object of the Month R Leporis

Excerpted from Burnham's Celestial Handbook

Hind's "Crimson Star", R Leporis, is a famous long period pulsating variable. Located at RA 04h 57.3m Dec 14d 53m S, this was first seen in October 1845 by J.R. Hind of London. The variability was discovered by Schmidt from observations made between 1852 and 1855. The light range is about 100 times in a period of 432 days. At maximum, the star may rise to nearly naked eye visibility, though these periods of greatest brilliancy have been scarce in recent years.

The color of this remarkable star is an intense red, described by various observers as resembling a glowing coal, a ruby, or an illuminated drop of blood. Hind himself found it "of the most intense crim-

son, resembling a blood-drop on the background of the sky; as regards depth of color, no other star visible in these latitudes could be compared with it." E.J. Hartung (1968) mentions it as gleaming "like a crimson jewel in a field well sprinkled with stars" while Miss Agnes Clerke (1905) remarked that even the colors of Antares and Betelgeuse were "mere pale shades" when compared with the wine-red hue of R Leporis. "As with most other variables, however, increase of light brings with it a paling of colour. Near maximum, intense redness gives place, partly through a well known physiological effect, to a coppery hue.

## THE MOST AMAZING THINGS

Contributed by Kevin Krisciunas

Some Thoughts on the January 1993 American Astronomical Society Meeting in Phoenix, Arizona

You may have seen it in the newspaper or in Time magazine. Astronomers at the January AAS meeting found a way to close the universe (i.e. to keep it from expanding forever). On the basis of the x-ray emission from the NGC 2300 group of galaxies four researchers chose one of several mechanisms as the cause of some X-ray emission, then on the basis of their chosen mechanism invoked the existence of 10 to 30 times as much dark matter in the cluster compared to luminous matter. And if all typical groups of galaxies have this much dark matter, then there may be enough unseen mass in the universe to keep it from expanding forever.

This strikes me as several leaps of faith. One of the four authors pointed out to me privately that if they had access to the German x-ray satellite ROSAT for six months, then they could look at many clusters and say with greater confidence if other clusters appear similar to the NGC 2300 group. But until then there is very little evidence for a universe that will collapse back on itself.

On the Tuesday morning of the meeting there was a press conference on the center of our galaxy. For the first time researchers have found near infrared emission from the location of the compact radio source.

This is interpreted cautiously as evidence of the accretion disk around a 900,000 solar mass black hole. Whether or not the postulated black hole has 1 or 3 million solar masses, one problem with the black hole model is that the accretion disk around such a black hole should give off much more x-ray and gamma-ray radiation than we detect. If such studies were a democracy the big black hole model would be winning, but conventional wisdom can be wrong.

Tuesday afternoon Carl Sagan gave a news conference on the subject of "What's wrong with science education?" He said that much needs to be changed at all levels. Everyone needs to contemplate what this country would be like if somewhere down the line there are only service jobs. Patent applications have been declining for some time. Industries are being moved overseas. The American economy will only be rejuvenated if our domestic industries are vital. This cannot be done if there are no science students. Parents need to encourage children. The media needs to report on science. Fiction writers need to show that being a scientist is a normal thing to be. Sagan is reluctant to assign priorities to what should be done, because the trap is that the "first priority" will get some attention and the others will be forgotten.

On the Tuesday evening Sagan gave a big public lecture on the investigation of organic molecules. At the very end someone asked him what three things he would like the answer to within his lifetime. He said: 1) Will the universe expand forever, or not? 2) What are the surface and atmospheric characteristics and orbital parameters of the nearest 100 other solar systems? 3) Sagan wants iron-clad evidence of contact from an extraterrestrial civilization. He won't get numbers 2 and 3, but I bumped into him in the lobby of the hotel and told him that we had the answer to number 1. The universe will expand forever. Even with dark matter there is only about 20 percent of the critical density accounted for, and there is evidence that "Einstein's cosmological constant" is positive, meaning that an empty vacuum exhibits a net repulsive force, which further guarantees that the universe will expand forever.

The best "research" paper of the meeting was presented by Bradley Schaefer of Goddard Space Center. He spoke on the true identity of Sherlock Holmes arch-rival Col. Moriarty. He turns out to be based on the famous American astronomer Simon Newcomb.

## Planets \* Comets \* Meteors

### February 1993

**Mercury** - Begins the month low in the western sky at sunset about 25 degrees West of Venus. Reaches greatest Eastern Elongation on February 20th when it will be 18 degrees east of the Sun.

**Venus** - Now past Greatest Eastern Elongation, it attains greatest brilliance on the 24th, where it will be joined in the sky in a spectacular crescent Moon - Venus conjunction.

**Mars** - Fades from -0.9 to -0.1 magnitude, losing almost half of its brilliance. The gap between Earth and Mars widens from 67 to 85 million miles. It shrinks from 13 arc-seconds to

about 10 arc-seconds.

**Jupiter** - Rises in the East by 10:30 PM HST at the beginning of the month and 8:30 PM by month end. It is moving westward through Virgo towards opposition on March 29th.

**Saturn** - Is lost in the glare of the Sun all month.

**Uranus & Neptune** - Are in Conjunction on February 1st, their first conjunction ever observed since discovery! They are low in the East Southeast in morning twilight, just over 1 degree apart.

**Pluto** - The 14 magnitude planet is high in the South before dawn.

**Comet Schaumasse** - Traverses Southern Perseus during February. The 7th or 8th magnitude comet is a periodic comet returning back to the inner solar system every 8.2 years. The comet is well placed for evening observing and should be an easy binocular object. Perihelion is on March 4th, but your best opportunity for observing it is the last two weeks of February, while the Moon is out of the evening sky.

**Alpha Centaurids Meteor Shower** - Peaks February 8th at 03h UT with an Zenithal Hourly Rate of 10.

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