

SAN JOSE AMATEUR ASTRONOMERS, INC.  
MONTHLY BULLETIN  
DECEMBER, 1971

PRES: Dave Erickson 269-4838  
VICE-PRES: Tom Halliday 296-3169

SECR: Jerry Rattley 262-5350  
TRES: Emmet Murphy 287-6378

MORRISON LECTURE

MORRISON LECTURE

MORRISON LECTURE

MORRISON LECTURE

MORRISON LECTURE

DECEMBER 3, 8 p.m.

In place of the December meeting will be the Morrison Lecture presented to us this year by Dr. David Cudaback from the University of California Astronomy Department at Berkeley. His topic will be "High Altitude Astronomy", and it is certainly hoped that he will be well received as Dr. Donald Goldsmith was last year. Difficulty has been encountered in obtaining the planetarium afterwards, so a star party has been planned for afterwards, SO BRING YOUR TELESCOPES AND BINOCULARS!

If weather permits, Dave will announce to the public attending that an informal star party will take place following the lecture. The lecture will take place at West Valley College, Saratoga Campus, at Fruitvale Avenue, Room SSN35 across from the planetarium.

The purpose of the Morrison Lecture fund is to provide public lectures, sponsored jointly by the Astronomical Society of the Pacific and a local astronomical group. In this case as the local astronomical group, the San Jose Amateur Astronomers are responsible for publicizing the lecture as widely as possible. Attached to this bulletin are two leaflets that you are to post in a public place or hand to your friends Above all BE THERE YOURSELF!

PLANNING MEETING, DECEMBER 10, 8 p.m.

Meet at Dave Ambrose's home, 1755 El Codo Way, San Jose. Phone 269-8262 for directions. Most remaining winter events will be planned at that time.

STAR PARTY, DECEMBER 18 AT SJAA SITE

Contact Dave at 269-4838 for details concerning this winter star party. Some of the best viewing all last year was done during the winter months.

REGULAR MEETING, JANUARY 7, 8 p.m.

The January regular meeting will be at Community Bank. Talks to be given will be "Double Stars in General" by Jerry Rattley and "Pluto" by Greg Nichols.

"CALENDAR OF ROCK"  
contributed by Ralph Bridge

S

Stonehenge, southwest England's enigmatic pile of primitive hanging stones, hid its mysterious past for over 3000 years.

The services of a modern electronic computer were used to solve the mystery of Stonehenge. The mystery: What was Stonehenge used for? The answer: It was an accurate "Astronomical Observatory" built to observe and mark the key rising and setting points of the sun and moon. Most of this work was done by Dr. Gerald Hawkins of the Smithsonian Astrophysical Observatory.

This activity also made it an accurate calendar to determine what season the country was in, a necessary knowledge for agriculture. Also, Stonehenge was a tool for predicting eclipses of the sun and moon, a necessary knowledge for priestly ritual.

It was first thought to have been built by the Druids for Druid ritual, but that was false; its present state of construction was completed about 1200 years before the Druids appeared in England, about 1600 years before the Romans appeared. No written records have been found stating who built it or when it was built. Dating was done by carbon 14 testing of charcoal and antlers and bone of deer found in the holes of Stonehenge.

The two solstice and the equinox rise and set points of the sun are accurately marked by stones or holes in line to view across the top to the extreme points, making seven sun viewing lines, marking six points. There are ten moon viewing lines marking twelve moon rise and set points. A total of 18 extreme celestial positions accurately are marked; this is "beyond accident" say the professional astronomers.

Science writer Alexander Marshack states, "There should be a re-evaluation of the origins of human culture, including the origins of art, symbol, religion, rite and astronomy, and of the skills available for the beginnings of agriculture."

A priest of ancient Stonehenge times might say something like this, "The full-moon god rises over the heel-stone tonight just before the sun-god sets; tonight the shadow eats up the moon-god; get out ye simple sorfs, fall on yer faces and pray for the return of the god-of-the-night."

Elements of orbits from the Third Catalogue of Orbits of Visual Binary stars

star name	1950 pos		P	T	mag	a	i	ω	Ω	l-y	calculator	
	RA	dec	yrs			"	°	°	°		name	date
ε 2 Cap	00 06	+79 26	300	1888	.57	0.69	113	230	170	326	W.D.Heintz	1954
λ 13 Cap	00 13	+76 40	1600	1830	.50	1.26	136	304	81	408	W.D.Heintz	1960
ο 6 Cap	00 19	+66 44	240	1927	.80	0.46	103	184	147	466	P.Muller	1954
λ Cas	00 29	+54 15	640	1958	.00	0.59	48	0	174	466	W.D.Heintz	1963
β 2 Tuc	00 29	-63 14	44	1923	.80	0.39	142	282	40	148	O.J.Eggen	1965

Struve 2 (ADS 102); located high in Cepheus, the component magnitudes of this system are 6.9 and 7.1, and the spectra of the system is A3. The motion is retrograde, with the distance increasing to 1702 in 2065. Apastron passage occurs in 2050.

Struve 13 (ADS 207); about 3° below ε2, this binary is a bit easier than ε2. Motion is retrograde, with the distance slowly increasing. There will be no maximum in the near future. Component magnitudes are 6.9 and 7.1, and the system spectra is B9.

Otto Struve 6 (ADS 295); about 10° below λ13, this binary also has retrograde motion and the distance is currently widening to a maximum of 0.83 in 2050. Apastron passage will also occur in 2050. Component magnitudes are 7.4 and 8.4, and the spectra are B8 and A1 respectively. This system is a physical triple with a 10.2 mag. star at 14" sharing common proper motion. The AB-C system is known as Struve 26, 126.

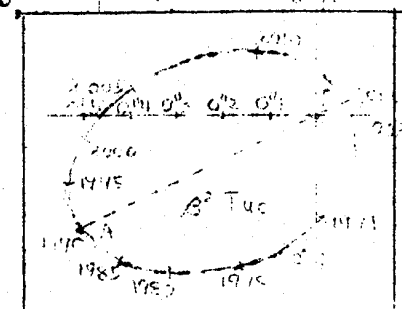
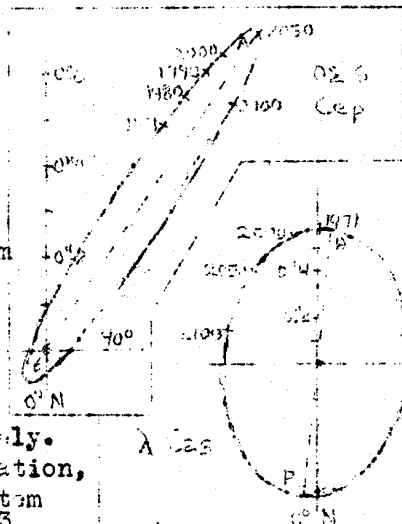
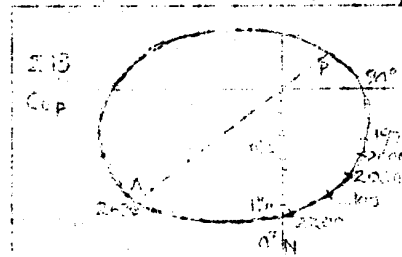
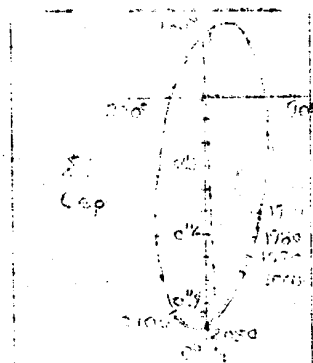
## Ephemerides:

	ε 2	λ 13	ο 6	λ Cas
1971	24° 0'56"	60° 0'84"	153° 0'54"	179° 0'59"
1980	19 0.65	57 0.85	152 0.62	182 0.58
1990	15 0.73	54 0.86	151 0.69	186 0.58
2000	12 0.78	51 0.88	150 0.74	190 0.57

Lambda Cassiopeiae (ADS 434); located 2° below and preceding Alpha, this binary has components of magnitudes 5.5 and 5.8, with a system spectra of B8. In this system the motion is direct and the distance is decreasing to a minimum of 0.4 in 2118. A maximum of 0.6 was just passed in 1958, and the next maximum of 0.6 is not due until 2278. Alpha Cassiopeiae itself is an optical double with a superb color contrast that is listed in neither the Skalnate Pleso nor Norton's. The components of Alpha have magnitudes of 2.5 and 9, P.A. 280°, sep. 65", colors orange and blue, respectively.

Beta<sup>2</sup> Tucanae (I 260); located too far south for observation, but if you are ever down south do not pass this stellar system by. It is part of a sextuple system composed of α1, β2, & β3, each of which is again double. Data on this system can be found in the Skalnate Pleso. The ephemeride below goes through almost a full revolution, apastron passage in 1990, maximum in 1991, minimum and periastron in 2012.

1971	30 0'22"	1985	307° 0'53"	2000	276° 0'50"
1975	333 0.36	1990	296 0.57	2005	261 0.41
1980	317 0.47	1995	285 0.55	2012	116 0.07



SAN JOSE AMATEUR ASTRONOMERS

announce another

# MORRISON LECTURE

sponsored by the

Astronomical Society of the Pacific

LECTURER: Dr. David Gudaback  
Astronomy Department  
University of California, Berkeley

TOPIC: HIGH ALTITUDE ASTRONOMY

PLACE: West Valley College  
Saratoga Campus, Fruitvale Avenue  
Room SSM35

TIME & DATE: December 3rd, Friday evening, 8 p.m.

Public invited, no admission charge.