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 LOWBROW. +
 ASTRONOMERS
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NEWSLETTER

THE LOWBROW CORNER

Well folks, the term of the first Administration is almost over. In April, we will be nominating people to serve in the next term (May 1981 - April 1982) and we will have the elections that same meeting. Just to remind you, the offices are: President, Observatory Director, Editor of the Newsletter, Treasurer, and Secretary. At this point I would like to state some of the accomplishments of the past administration:

President-Jim Cypser: always prepared to have a program for every meeting, he was responsible for one of the best programs, that being the Old Observatory Tour with Dr. Hiltner.

Observatory Director-Doug Nelle: brought the 24-inch back to life.

Secretary-Treasurer-Jeff Ziehm: got finances in order, trying to get club recognized as a non-profit organization.

Club Registrar-Erin Stewart: watched 'Leave it to Beaver' twice in the same day.

Newsletter Editor-Don Luttermoser: failed miserably, deserves to die.

May 9 is National Astronomy Day. Mike Potter and Don Luttermoser are still looking for people to help in the activities. Suggestions for the activities include a set-up and lecture at the Science Museum, solar viewing at the Diag, a set-up at the public library and at the Briarwood Mall, and a star party at Peach Mountain. Mike and Don will be having a meeting the first week in March to plan the occasion, all interested in attending, please contact Mike or Don.

WHAT'S NEW ON THE SUN ?

-Don Luttermoser

Data gathered over a 12 year interval of the sun show that the sun is banded by alternating fast- and slow-moving velocity streams. At every latitude these streams move an average of 3 meters/second more or less than implied by a smooth curve representing the sun's differential rotation.

Apparently the excess velocities result from a stretching of magnetic fields by large-scale motions of mass deep within the sun. If so, this is the first evidence of an association between mass motions and the large scale characteristics of the solar activity cycle.

The interpretation of this phenomenon is that when the solar activity is at a minimum and the

polar magnetic fields are relatively strong, a new fast velocity zone originates at each pole. About 11 years later it has reached sunspot latitudes and regions begin to form near its poleward boundary. Eleven years after that, this zone merges at the equator with the corresponding zone from the other hemisphere and disappears.

This result provides clear evidence that the solar magnetic cycle is not a random process generated by surface drifts of fields, rather, it is driven from beneath the surface by resonant large-scale mass motions.

UNIVERSITY LOWBROW ASTRONOMERS

Pete Alway.....	711 Arch Apt.203.....	Ann Arbor	48104.....	
Schuyler Baldwin.....	619 Oxford #204.....	Ann Arbor	48104.....	
George Bartuska.....	2327 Twin Lakes Dr#TA.....	Ypsilanti	48197.....	665-6000
Jeff Bass.....	2880 International Dr#308C.....	Ypsi	48197.....	434-6390
Rol Bloomfield.....	.....	.....	.....	.....
Jack Brisbin.....	5929 Sandhurst #102.....	Canton.....	.....	453-7954
Ron Burk.....	938 Westwood.....	Ann Arbor	48103.....	994-0468
Toon Cheam.....	Rm.637 Dennison.....	Ann Arbor	48109.....	
Carol Criss.....	588 Black's Corners.....	Imlay City	48444.....	
Rebecca Criss.....	".....	".....	".....	
Jim Cypser.....	.....	Ann Arbor	48104.....	995-0204
Darlene Cypser.....	.....	".....	".....	".....
Scott Davis.....	335 E.Huron Apt.#1.....	Ann Arbor	48104.....	
Steven Domino.....	3071 Exmore.....	Ann Arbor	48104.....	
Forrest Hartman.....	1803 Village Green.....	Ann Arbor	48105.....	
Jennifer Haughey.....	6113 Markley-Scott.....	Ann Arbor	48109.....	
Tim Hill.....	34625 Parkgrove.....	Westland.....	
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Don Luttermoser.....	415 Nob Hill Pl#2.....	Ann Arbor	48103.....	663-8494
David Mann.....	6607 Lewis-Bursley.....	Ann Arbor	48109.....	
Brian McGraw.....	4715 Taylor South Quad.....	Ann Arbor	48109.....	
Charles Morgan.....	3678 Frederick Dr.....	Ann Arbor	48105.....	
Terry Moyer.....	1930 Dunemore Rd.....	Ann Arbor	48103.....	662-0417
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Doug Nelle.....	302 Pauline.....	Ann Arbor	48103.....	663-2080
Cassi Paslick.....	215 Eighth.....	Ann Arbor	48103.....	663-8312
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Bill & Jane Pelletier.....	8963 Nottingham.....	Ypsilanti	48197.....	483-3047
Mike Potter.....	1320 Forest Ct.....	Ann Arbor	48104.....	663-4685
David Roelant.....	Baits Cross House.....	Ann Arbor	48109.....	
Rhana Ritter.....	206 Strass East Quad.....	Ann Arbor	48109.....	
Scott Shaw.....	503 West Quad.....	Ann Arbor	48109.....	
Erin Stewart.....	819 Center.....	Ann Arbor	48103.....	665-7511
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Jeff Ziehm.....	406 Packard #207.....	Ann Arbor	48104.....	995-9208

WHAT'S UP

2/13/81 - 3/20/81

(All times are E.S.T.)

- 13 Possible observing with Angell Hall telescopes after meeting. Stars named and constellations pointed out upon request, by Jim Cypser & anyone else willing and able to. Possible Peach Mountain observing expedition, depending on whether or not anyone has a car or two that hasn't fallen victim to the weather!
- 14 Same as for the day before, minus the monthly meeting...
- 15
- 16
- 17 Mercury moves into the morning sky.
- 18 Full moon, 5:58 p.m. In February the full moon is sometimes called the Snow Moon, Wolf Moon, or Hunger Moon.
- 19 Jupiter passes 1.9 degrees south of Saturn around 2:00 a.m. This is the second of three conjunctions this year. Jupiter is magnitude 1.9 and Saturn weighs in at 0.8.
- 20 If anyone's still in town (spring break will have started) we might head out to Peach Mountain to look for Vesta--about now, you might even be able to pick it out with your unaided eyes--and other goodies, with or without the 24-inch. Vesta's vital statistics: magnitude 6.2, position 10 hours 35 minutes and 18 degrees 57 minutes.
- Mercury passes 5 degrees north of Venus around 8:00 p.m... It might be possible to find them in the morning sky, though, at magnitudes 2.0 and 3.4, respectively.
- 21 Vesta officially reaches opposition and position listed above.
- 22
- 23
- 24
- 25
- 26 Delta Leonid meteors, February 5th through March 19th. The radiant is at about 10 hours 36 minutes and 19 degrees--remarkably close to where Vesta was when it reached opposition less than a week ago. Maybe 3 meteors per hour, traveling at about 24 kilometers per second, which is moderately slow for meteors. Moon at last quarter, 8:14 p.m.
- 27 This would be a reasonably good time for a Peach Mountain star-party. If interested, sign up on the activities sign-up sheets.
- 28 Look for the geggenshien and the counter glow.
- 1
- 2 Quetzalcoatl (minor planet 1915) begins to try to imitate a meteor from the observer's point of view...covering several degrees of sky a day.
- 3
- 4
- 5
- 6 Quetzalcoatl's daily motion isn't as spectacular now...
- 7 A new moon falling on a weekend--with clear skies--means Peach Mountain if I have to walk!
- 8 Saturday after the new moon.
- 9
- 10 Intelligent life discovered on 4th planet of the star Psi Aurigae.
- 11
- 12
- 13 Moon at first quarter, 3:50 p.m. Astrofest #96 7:30p.m. MLB 3 "first flight of the Space Shuttle".

HERE WHAT'S UP

14 About one meteor per hour radiates from the direction of the
circumpolar constellation Camelopardalus (the Giraffe, of all
things!) starting about now and continuing through about April
24th. There's no definite peak, and the only reason to notice
this "sprinkling" (as opposed to "shower", I guess) of meteors
is that they are the slowest known, hitting Earth's atmosphere
at the stately speed of seven kilometers per second...

15
16 Corona Australis meteors, March 14th-18th. The radiant is
actually in the constellation Norma, and on the horizon for
observers at Ann Arbor's latitude. Maybe five per hour.
Mercury at greatest elongation west.

17
18
19
20 Vernal equinox, 12:03 p.m.

Full moon, 10:22 a.m. In March, it's called the Sap Moon, Crow
Moon or Lenten Moon.

Notice that the full moon and the vernal equinox falling within
a couple of hours of each other means the moon will rise at
almost exactly the same time the sun sets, and vice versa...
and both will spend exactly twelve hours in the sky.

March meeting of the University Lowbrow Astronomers, 7:30 p.m.
Angell Hall room 5006. Program is still up in the air, suggestions
and volunteers welcome.

Answers to January Crossword Puzzle

ACROSS

- 3) Jack Lousma
- 5) Copernicus
- 6) Mercury
- 7) Acubens
- 8) Praesape

DOWN

- 1) Not much
- 2) Galileo
- 4) Columbia

UP

- 9) Alpard
(it's in Hydra)

NASA Task

by

Jay Hall, The University of Texas

DECISION FORM

Your spaceship has just crash-landed on the moon. You were scheduled to rendezvous with a mother ship 200 miles away on the lighted surface of the moon, but the rough landing has ruined your ship and destroyed all the equipment on board, except for the 15 items listed below.

Your crew's survival depends on reaching the mother ship, so you must choose the most critical items available for the 200-mile trip. Your task is to rank the 15 items in terms of their importance for survival. Place the number 1 by the most important item, the number 2 by the second most important, and so on through number 15, the least important.

- _____ Box of matches
- 2 _____ Food concentrate
- 7 _____ Fifty feet of nylon rope
- 10 _____ Parachute silk
- 14 _____ Solar-powered portable heating unit
- _____ Two .45-caliber pistols
- 11 _____ One case of dehydrated milk
- 12 _____ Two 100-pound tanks of oxygen
- _____ Stellar map (of the moon's constellation)
- _____ Self-inflating life raft
- 13 _____ Magnetic compass
- 3 _____ Five gallons of water
- _____ Signal flares
- 8 _____ First-aid kit containing injection needles
- 5 _____ Solar-powered FM receiver-transmitter

SCORER'S SHEET

Items	NASA's Reasoning	NASA's ranks	Group Ranks	Error Points
Box of matches	No oxygen on moon to sustain flame, virtually worthless	15		
Food concentrate	Efficient means of supplying energy requirements	4		
Fifty feet of nylon rope	Useful in scaling cliffs, tying injured together	✓? 6		
Parachute silk	Protection from sun's rays	✓ 8		
Solar-powered portable heating unit	Not needed unless on dark side	✓ 13		
Two .45 caliber pistols	Possible means of self-propulsion	✓ 11		
One case of dehydrated Pet milk	Bulkier duplication of food concentrate	12		
Two 100-pound tanks of oxygen	Most pressing survival need	1		
Stellar map (of the moon's constellation)	Primary means of navigation	(✓) 3		
Self-initiating life raft	CO bottle in military raft may be used for propulsion	✓ 9		
Magnetic compass	Magnetic field on moon is not polarized, worthless for navigation	14		
Five gallons of water	Replacement for tremendous liquid loss on lighted side	2		
Signal flares	Distress signal when mother ship is sighted	✓ 10		
First-aid kit containing injection needles	Needles for vitamins, medicines, etc., will fit special aperture in NASA space suits	7		
Solar-powered FM receiver-transmitter	For communication with mother ship, but FM requires line-of-sight transmission and short ranges	5		
			Total	<input type="text"/>

Error points are the absolute difference between the group's rank and NASA's rank. For example, food concentrate is ranked 4 by NASA. If the group ranks this item as either 2 or 6, they would be given 2 error points.

by 'Plagiarism Pete' Alway

Here are a few recent astronomical discoveries, developments, and events lifted from recent magazines. Voyager/Saturn discoveries have been omitted, but I recommend that those who have not O. D. ed on Voyager 1 trivia check out the articles in the Jan. and Feb. Astronomy, the Jan. sky & Telescope, and/or the Jan Star & Sky.

Well, all you sun lovers, the sun is a variable star--sort of. High altitude balloon observations of the solar constant over the last 10-15 years indicate that the sun's energy output has increased by about 0.04% over that period. Rocket and satellite data support this conclusion, and also indicate variations of a similar magnitude over times on the order of a few days. Note, however, that a 0.4% variation translates into only about 0.004 magnitudes, while the most steady "real" variables have a range of about 0.1 magnitudes.

One story that has been making the rounds in the popular astronomy and science magazines is that Galileo observed Neptune in 1612 and 1613. Astronomers at the U. S. Naval Observatory have been trying to determine if there are any significant perturbations of Neptune's orbit, perhaps due to some undiscovered planet. Earlier this century, a similar effort led to the more or less accidental discovery of Pluto, but now Pluto's mass seems insufficient to significantly affect Neptune. The sighting by Galileo, if trustworthy, would double the time span for which Neptune observations are available. This could greatly aid the search for a cause of Neptunian perturbations.

Voyager 2 will go to Uranus. The spacecraft was already on a Saturn-Uranus trajectory when the official decision was made. The craft's Saturn schedule is now **** being revised to take advantage of Voyager 1's discoveries. The changes include an emphasis on the eccentricities (including the eccentricities) of the rings, and the more interesting polar regions of the planet itself.

The U. of Texas McDonald observatory has approved plans for a 300" optical telescope. Current plans include a computer-controlled alt-azimuth mounting.