

## Predictions

JULY IN THE YEAR 1978

- Jun. 30 & Jul. 1 AANC sponsored star party at Fremont Peak.
- Jul. 2 Lunar Graze Occultation of Aldebaran. A major club expedition is planned to a site north of Stockton. See the Occulting Zone page and Jim Van Nuland.
- Jul. 8 Close-in star party at Sanborn Canyon with the Astrophotographers going out on their own.
- Jul. 14 Board of Directors Meeting, 8:00 pm. Debbie Moore's house, 5336 Harwood Rd. San Jose. Possible barbecue is planned and bring your bathing suits. Call Debbie.
- Jul. 16 Banquet and Annual Meeting, Michaels at 830 East El Camino in Sunnyvale. 2 - 6 pm. Tom Gates, Director of the Space Science Center at Foothill College will present "The Peter Principle in Astronomy." Cost is \$7.50 per person.
- Jul. 22 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Jul. 27-30 WAA, AANC, ALPO, and ASP Joint Conference at Cal Poly University, San Luis Obispo. Information sheets will be at all meetings or send me a self-addressed stamped envelope.
- Jul. 28-29 AANC sponsored star party at Fremont Peak.
- Jul. 29 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Aug. 5 Club star party at Henry Coe Park. Dusk to dawn.
- Aug. 11 Board of Directors Meeting, Douglas H. Buettner's, 6659 Mt. Pakron Dr. San Jose, 8:00 pm.
- Aug. 12 General Meeting, Rosicrucian Planetarium, 7:30 pm. Park & Naglee, San Jose. Curt Warren, Director of the Rosicrucian Planetarium, will give a program on Stonehenge.
- Aug. 19 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Aug. 25-26 AANC sponsored star party at Fremont Peak.
- Aug. 26 Indoor star party, Los Gatos Red Cross, 7:00 pm.

"Tell me, I'll forget. Show me, I may remember. But involve me and I'll understand." Chinese proverb  
from Reader's Digest

The San Jose Astronomical Association

## Report of June 17th General Meeting

An abundance of announcements preceded the program. First, if you didn't call John Rhodes last month, you've got another chance this month. The decision on surgery has been postponed, and he's still on the flat of his back.

The club was well represented at the Riverside conference over the Memorial Day weekend. Those interested in registering early for the San Luis Obispo conference July 27-30 should contact Penny.

Jim Van Nuland added a few details to his occultation/graze plans published in last month's bulletin. Most important was a request for everyone planning to be there, whether timing or not, to please contact him by phone or card, so he can lay out the proper number of stations. Ed Schell mentioned that after the graze everyone might like to relax at a nearby lake he found, before heading home.

Concerning the July banquet at Michael's, everyone MUST sign up ahead, no later than Friday, July 14th. Among other things, the newly elected board members - Dr. Gregory, John Rhodes, Gerry Rattley, and Phil Hermsmeyer - will be officially installed.

Hopefully in the next couple weeks, those working on choosing a good site for viewing the February eclipse will have enough info to make a decision. Current leanings are toward Helena or Lewiston, Montana. Good roads (for last minute mobility) and motels are important considerations.

Last - but far from least - Ken Wilson gave an inspiring program on ways amateur astronomers can make valuable contributions to astronomy. For instance, if you like meteors, you can help count them, plot them, or listen to them by radio. Important data can be taken of occultations, variable stars and double stars and long-term observations made of lunar and planetary objects. Most of these interest areas have a center for collecting data and dispersing information, so I suspect everyone will be adding a note pad to their star party gear from now on.

Suzanne Lowd - Staff Reporter

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I did not go to the Fremont Peak star party June 2nd and 3rd. It was reported that there were dark skies and good seeing because of the fog-covered valley. Unfortunately, finals kept me at home, so I missed all the excitement.

On June 18th, however, I did go to the AANC board meeting at the Morrison Planetarium. Two things directly related to the club were discussed. Dr. Gregory and Don Machholz were nominated for the AANC award. Neither won. The next AANC board meeting will be held at 5:00 on September 16th at the Los Gatos Red Cross. The usual 7:00 indoor star party is scheduled that same evening with the board attending. The board meeting is open to all - which gives everyone a chance to find out who the board members are and to talk to them.

Penny

## COMET COMMENTS

Don Machholz (356-7727)

As we roll into summer months, there still remains two comets visible to the Northern Hemisphere amateur astronomer. However, they are both "slowly sinking into the West," so to speak, and will be visible for only a short time.

Periodic Comet Wild 2, (or 1978b) is presently in the constellation Leo, and is slowly moving east-ward. Although it remains some 35 degrees from the sun, it is getting fainter, and is now around mag. 11. I observed it several weeks ago and found it rather diffuse, appearing like M74 or M101.

Also under observation is Comet Meier. It is still in the evening sky and getting closer to the sun which it will go behind in late September. Then it will continue to move southward, and will no longer be visible from this hemisphere. Therefore, the time to observe comet 1978f is now. It is about mag. 9, and about 3' across.

## Periodic Comet Wild 2 (1978b)

1978 UT	R.A.	Dec.	Mag.
June 21	9h52.6m	+14°58'	11.0
July 1	10 21.6	+12 25	
July 11	10 51.4	+ 9 39	11.2
July 21	11 20.6	+ 6 44	
July 31	11 49.4	+ 3 44	11.5

(from I.A.U. Cir. 3177)

## Comet Meier (1978f)

1978 UT	R.A.	Dec.	Mag.
June 21	8h37.2m	+39°54'	9.8
July 1	8 54.2	+36 59	
July 11	9 11.9	+33 54	9.3
July 21	9 29.4	+30 36	
July 31	9 47.7	+27 03	8.7
Aug. 10	10 06.4	+23 12	
Aug. 20	10 25.5	+19 01	8.0

(from I.A.U. Cir. 3227)



## Sky Watching at Skyline

Norm Wild

Tuesday night, June 6, I decided to have a class star party at the old Skyline site. Eight of my high school students came. While the original site is blocked by a gate, one can still set up near the road. The viewing was excellent. I would still recommend this area for small group viewing (not more than 4 scopes) during a week night.

In place of my Editorial:

John Rhodes told me not to put in the Bulletin that his phone bill was \$35 talking to Jim Van Nuland alone. He also added that he figured I'd probably put it in the Bulletin anyway.

Penny

P.S. He does like to hear from club members, so give him a call sometime. And if you're long distance, don't worry, he'll keep it down to about an hour! 415-969-2615

# rattley rattles

The Finest Deep Sky Objects on the Skalnate Pleso Atlas of the Heavens  
Chart VI

NGC RA (1950) dec Con SP:mag,size,type,dist  
246 00 44.6 -12 09 Cet pn:8½(\*11½):4!0x3!5:IIIa:460pc  
H.V 25: very Faint, Large, 4 stars in diffuse nebula: use low and moderate powers with dark skies; difficult object!; central star is easy.  
628 01 34.0 +15 32 Psc eg:10½:10!6x9!0:Sc:7Mpc  
M.74: Faint, very Large, Round, very gradual then pretty suddenly much brighter in the Middle, very mottled: use low power.  
720 01 50.6 -13 59 Cet eg:10½:1!6x1!1:E3:18Mpc  
H.I 105: considerably Bright, pretty Large, a little Elongated, pretty suddenly much brighter in the Middle: use moderate power.  
772 01 56.6 +18 46 Ari eg:11:5!0x3!0:Sb:25Mpc  
H.I 112: Bright, considerably Large, Round, gradually brighter in the Middle, mottled: fine object with low power and dark skies!; several bright field stars.  
936 02 25.1 -01 22 Cet eg:10½:3!3x2!5:SBa:14Mpc  
H.IV 23: very Bright, very Large, Round, much brighter in the Middle, Nucleus, faint companion following: use low power.  
1055 02 39.2 +00 16 Cet eg:11½:6!7x1!5:Sb:9Mpc  
H.I 1: H.II 6: pretty Faint, considerably Large, irregularly Elongated in P.A. 80°, brighter in the Middle, 11th mag star 1" north: use low power and dark skies; not far from M.77!  
1068 02 40.1 -00 14 Cet eg:9:6!0x5!0:Sbp:16Mpc  
M.77: very Bright, pretty Large, irregularly Round, suddenly brighter in the Middle with a very resolvable Nucleus: use low & moderate powers!!  
1300 03 17.5 -19 35 Eri eg:11:5!7x3!5:SBb:15Mpc  
considerably Bright, very Large, very much Elongated, pretty suddenly very much brighter in the Middle: use low power and dark skies.

Finest Skalnate Pleso Objects - Chart IV, conclusion

NGC RA (1950) dec Con SP:mag,size,type,dist  
6205 16 39.9 +36 33 Her gc:5½:10!0:IX:7kpc  
M.13: Remarkable, Globular, extremely Bright, very Rich, very gradually extremely Compressed in the Middle, stars from 11th mag down: the Great Hercules Cluster; spectacular in any optics at any power! there are many curved arcs of stars which make it resemble a spider; easily resolvable!  
6210 16 42.5 +23 53 Her pn:9½(\*12½):0!3x0!2:II+VI:790pc  
E 5: Planetary, very Bright, very Small, Round, disc & border: use moderate power to locate and high power to observe; easy central star; larger scopes will reveal a bluish color in this nebula!  
6229 16 45.6 +47 37 Her gc:9:1!2:VII:25kpc  
H.IV 50: Globular, very Bright, Large, Round, disc & Faint border, mottled: use moderate power; rewarding to find and observe!  
6341 17 15.6 +43 12 Her gc:6:8!3:IV:11kpc  
M.92: Globular, very Bright, very Large, extremely Compressed in the Middle, extremely resolvable, stars Small: almost as spectacular as its famous neighbor M.13 but often neglected; good for any power!

Dark Skies;

*Gerald W. Felt*

## occulting zone

The site for the July 2 graze of Aldebaran has been chosen. This is an update to the information in last month's bulletin.

### Pre-registration

If I haven't already registered you as an Official Observer, please call me by June 30 evening, so I know how many stations to lay out. If you're not sure, let me know too.

I have only 10 observers signed up, so your help is needed. Stations will be about 800 feet apart, and that's pretty coarse; 300 feet would be better. So come along.

This is the only graze of Aldebaran in the current 4-year cycle that falls close to this area; then it's a 14-year wait.

If you cannot call me, come on up anyway. I'll have some extra stations and will fit you in.

### Special person needed!!!!

A volunteer is sought to go a mile or two south to cover a single tall mountain. This person will get two timings, rather than the 6-20 that will be gotten in the main path of the graze. Perhaps a first-timer will prefer a less-busy station?

Location: 2.5 mi. north of Clay, Calif., along Clay Station Road.

Take I-5 north out of Stockton for 23 miles. Exit east on Twin Cities Road, (hy. 104). Proceed 3.7 miles to the hamlet of Herald. Someone will be at the General Store at 6:00 PM Saturday, and at 3:00 AM Sunday, to lead the convoy to the site. If you wish, continue along 104 an additional 4.9 miles to Clay Station Road. Turn north for 2-3 (no more!) miles or until you find us. I will assign sites as people arrive, so you can set up early if you wish. One-way, about 120 miles.

### First-time Jitters

None of us did one of these before our first one. If you're not sure you know how to go about it, call me and I'll assure you that it isn't difficult and you'll do just fine. I have some handouts with how-to-do-it information.

About equipment -- you'll need a telescope, though binoculars on a support may be adequate for this one. Battery tape recorder is nearly necessary. Radio, inverter, CB, are all optional. We'll make do with whatever you have.

If you wish to watch, without making timings, you are most welcome to come along too.

### Additional Ravings

The sun will be up, so the usual problems with bright limb vs. dark limb events will be absent. This will make it easy to reduce as all events can be considered dark limb.

Due to the star's diameter (0.02"), events will be non-instantaneous; up to a second in duration. This is the only time that physical evidence of the finite size of stars may be garnered with ordinary telescopes.

An Astrophotography Trip To  
Arizona --by Bob Fingerhut

One evening during Dr. Gregory's astronomy class, I shot off my mouth about the magnificence of the of the globular cluster Omega Centauri and how much I wanted to photograph it. Fellow student and friend, Jack Petersen, said that if it was so fantastic, we should go to Arizona where the skies are clear and dark and Omega Centauri would be about 5 degrees higher in the sky. And so our trip was born.

After considering when the cluster would be in good position for photographing and possible climatic conditions, we chose the first two weeks in May. We made a good choice because, as it turned out, May had the first new moon period in six months with good weather.

The first preparation we had to make was to get our equipment operational. We both own 8 inch Celestron telescopes. Neither scope had been used for photography before. Mine was purchased new in December. I had sold a photographically operational 5 inch Celestron when I bought the 8 inch. Jack had not photographed before. We spent Friday evenings for several months in Oakland at the Chabot Telescope Makers Workshop hogging the lathe. Most of the modifications we had to make were to the mountings. We finished Jack's azimuth-leveling device well after midnight less than 36 hours before we left. I would like to thank Bob Schaulk for keeping the Telescope Makers Workshop open for us until we finished.

After our request to Kitt Peak for use of their site was turned down, we tried to contact the Tucson Astronomy Club to help with the selection of a site. I made contact with Bill Anderson, a member of the Tucson club and an amateur astrophotographer, who works for the Optical Science Department at the University of Arizona. He was grinding a 72 inch mirror when I first called him and had to tend the grinding machine while talking to me. Bill was a great help to us. He selected a superb site for our needs and opened the university workshop to us. The site he selected was six miles from the Mexican border, north of the town of Sasabe, and about 30 miles south of Kitt Peak. It was at 3500 feet elevation and had an unobstructed southern horizon. It was also open range land in the middle of the Sonora desert.

We realized we had to be prepared to live in the desert for several days at a time, and we wanted to be comfortable. So, we rented a 22 foot mini-motor home. It was perfect for

living in the desert. It had a refrigerator, freezer, stove, oven, sink, full-size bathroom, two double beds, air conditioning, and an evaporative cooler. For the long drives it had cruise control and a stereo radio.

Our first day out we stopped off at Celestron International. We had a letter of introduction from Dr. Gregory to Mr. Allan Hale, the company president. While Mr. Hale showed us around the plant, our telescopes were being retrofitted with new smooth ball bearing focusers.

We made one more stop, at Mount Palomar to see the 200 inch Hale telescope, before going on to Tucson. In Tucson we toured the Flandreau Planetarium and the Optical Science Center and located a source of dry ice for our cold cameras.

The first day in the desert we set up our telescopes in an area where there wasn't any brush. We were awaiting our first view of the desert night sky when a herd of bulls walked into our camp. They wouldn't leave, so we did! We had set up where they liked to sleep. We moved about 50 yards away and had no further problems that night. The only other time the bulls bothered us was when one used the mini-motor home for a scratching post while several started to investigate our equipment. Jack solved that problem by surprising and scaring them. Fortunately, they stampeded away from our equipment.

Norm Nienchel flew out to join us for three days during our stay in Arizona. While he was with us, he flew us up to the Grand Canyon, and we also visited the Kitt Peak Observatory.

We spent five nights in the desert and got several good pictures including Omega Centauri (of course), Centaurus A, the Lagoon, M 17, M 13, the North American and others.

Is Omega Centauri as magnificent as I originally said? Ask Norm or Jack, or come to the Red Cross meetings and see our slides.

In response to my plea for contributions, I received a long letter from Dick Barrett a month or so ago. He's been involved in the club since at least 1958 - as long as I've been alive! He said the club got started when someone asked him to run an item in his newspaper column (San Jose News) about organizing an amateur astronomer association. The first meeting was held at Hoover School across the street from the Rosicrucian Planetarium, so we're back where we started from. It's nice to hear from the "Old Timers"; there is so much club information we don't know about, and we'd like to hear some of the little stories and anecdotes about the early days of SJAA. Maybe some of the other long-time members can write letters about what they know.

Penny

## Blurbs

Is your brass name tag getting tarnished? If so, Gerry Rattley has the club can of Brasso and will bring it to all Red Cross meetings.

If you are interested in the February solar eclipse contact Jack Zeiders or Gerry Rattley.

There are still a lot of people who have not renewed their membership. They are overdue. Give \$17 for adults, \$10 for juniors under 18 to the Treasurer, Bob Fingerhut.

At the last board meeting, (changed to John Rhodes' house at the last minute) the new board members, Gerry Rattley, John Rhodes, Dr. Gregory, and Phil Hermsmeyer took office. With the continuing members they elected new officers - President, Gerry Rattley; Vice-President, Douglas H. Buettner; Secretary, Cathy Pinheiro; Treasurer, Bob Fingerhut. Installment will be at the Banquet.

Also at the board meeting, my Bulletin budget was increased \$10 a month to offset the recent raise in postage.

Graze Occultations are fun and worth attending. I've been on two expeditions and have enjoyed them as much as or more than star parties. If you haven't been, please come, you just might learn something, and in the process have fun while contributing to scientific knowledge. Possibility of a picnic and swimming party afterwards.

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### Recent Observations of the Rings of Uranus

Additional occultations of stars by the rings of Uranus have been observed at the 200-inch on Mt. Palomar, and at stations in Chile and the Canary Islands. The observations were described by Dr. Peter Goldreich of Cal Tech in a colloquium at the Ames Research Center on June 22nd. These events occurred in December, 1977 and April, 1978. The observations were made at the infrared wavelength of 2 microns. At that wavelength, the magnitude of Uranus is +13, so the disappearance of faint stars is readily detected. Four additional rings were also discovered, bringing the total number known to nine. The various events have occurred at sufficient spacing around the rings to show that some are definitely elliptical, especially the "epsilon" ring. This is the widest ring, varying from 20 km. to 100 km. wide. The other rings are 10 km. wide or less.

The rings have been directly observed at 2-micron wavelength with the 200-inch by Mathews and Neugebauer of Cal Tech. Repeated scans across the planet and the surrounding sky showed peaks at the expected distance from the edge of the planet. Attempts to detect the rings directly in visible light have failed, indicating they are composed of much darker material than the rings of Saturn.

by Allan Meyer

## SECRETARY'S LIBRARY

Cathy Pinheiro

Unknown as it may be to the general club's knowledge, there does exist within the club a club library, consisting of between 25-30 books, 3-4 various magazines, pamphlets and other paraphanelia. Therefore, as club librarian, I am starting this month to list in each month's bulletin a few of the books and magazines available to any of the club members upon request. If you have any questions or would like additional information on any of the books listed, please feel free to get ahold of me at any of the club meetings or events, or you may also call me at home in the evenings at 265-4824.

Astronomy, September 1977 & December 1977

Aviation Week and Space Technology, Aug. 9, 1976  
Oct. 31, 1977  
Nov. 8, 1976

Basic Scientific Photography, A Kodak Scientific Data Book

Amateur Telescope Making, Book Two, Albert G. Ingalls, Editor

Amateur Telescope Making, Book Three, Albert G. Ingalls, Editor

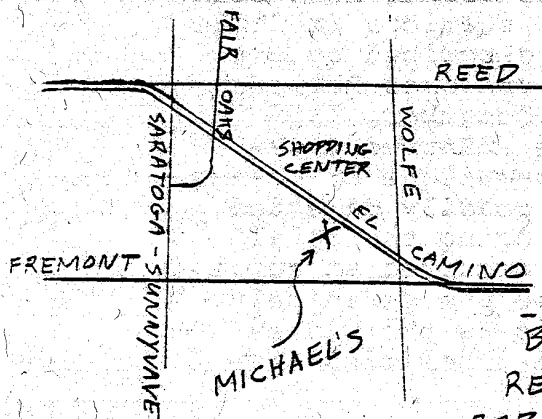
An Introduction to Astronomy, by R.H. Baker

Planetary Theory, by Ernest W. Brown

All About Telescopes, by Sam Brown

An Introduction to the Study of Stellar Structure, by S. Chandrasekhar

Principles of Stellar Dynamics, by S. Chandrasekhar



CLUB BANQUET JULY 16, 2 pm.  
ANNUAL MEETING EVERYONE INVITED  
AT GUESTS WELCOME

"MICHAEL'S"  
830 E. EL CAMINO REAL  
SUNNYVALE

BUFFET - TOTAL COST - \$7.50 PER PERSON  
RESERVATIONS REQUIRED BY FRID JULY 14  
BOB FINGERHUT, 340 RIO VERDE #4, MILPITAS, CA  
263-4455 FOR MORE INFORMATION 45035

"Jim Van Nuland stands alone in the occult arts."

John Rhodes at the last board meeting

"If your spacesuit's falling off do you slip into an asteroid belt?"

Denni Medlock quoting Rob Vorderbreuggen



# THE TENTH ANNUAL RIVERSIDE TELESCOPE MAKERS' CONFERENCE

Denni Frerichs-Medlock

Think of a freddie peak star party with the usual SJAA, Chabot, Dobson, and West Valley gang in attendance, multiply it by three, and you'll have a partial idea of how big and how energetic this year's meet was at Big Bear. The averages in the last few years have run somewhere around 300 people and 100 telescopes. This year there were over 600 starry-eyed people and almost 200 of their night time companions on the field. No wonder the four judges were complaining of sore feet in trying to track down those who had entered the competition!

The Bay Area groups were again the largest section of the field. When it came time for a group picture of the northern folks, forty people showed up, thirty of whom were members of the nearly inseparable mass of SJAA-Chabot personalities. First to arrive Friday were Doug Berger and Debbie Moore, staking out the upper half of the field for the northerners. By that afternoon a fair size showing from San Jose was there - Jack Zeiders, Gerry Rattley, Cathy Pinheiro, Kevin Medlock and myself. Norm Neigel flew in Saturday, Pete Arebello and friend showed up then, and numerous others had settled in by Saturday night. The upper end of the field looked like a wagon train of vans waiting for an attack!

Despite the immense size of the conference, it was the small things that made it so enjoyable for everyone involved. KPBS, a public educational television station from LA showed up to film shots for its new series "Project Universe," starting in September. Two out of three people interviewed and filmed were SJAA members - Debbie Moore with her newly working 10" and Kevin Medlock and his 18" telescope, Spirit. (Debbie's 10" saw first light Friday night at the conference, by the way.) Hams, all of them, and no, I haven't found a way to fit Kevin's head through our apartment door yet.

Interestingly, no one from SJAA won a telescope award which must be the first time in many years. Must be because noone entered this year. In door prizes, however, the Bay Area people walked off with books, eye-pieces, and binoculars. This year a \$50 prize was awarded by Astronomy for America to Paul Zurakowski of the Chabot Telescope Makers' Workshop for his work in amateur astronomy. Many of the SJAA people are involved in working with Paul and helped in nominating him for this award. This was received in one of the first standing ovations ever given at the conference.

Saturday night Gerry Rattley finally completed his survey of all the NGC's under 13th magnitude. Over the years he had marked each out in his Skalnat Plaease with a red marker pen and now his charts look like they have the measles. (We're calling him the human star chart these days.

The scientific handling of beer was learned as Jack Zeiders provided everyone a cool drink of foam on Saturday from a keg carefully brought along. No one realized that at 7800' it was already pressurized and didn't have to be pumped up to begin with..... Gerry looks great with a white mustache.

Unfortunately, we had to contend with a three-quarters moon and night temps in the thirties but that was a quick way to learn the value of my new little friend, a propane heater. Coffee and donuts in the lecture hall kept most people thawed enough to look through the many incredible 'scopes there. I think I saw Uranus three times that weekend. That's three times the number of times I've ever viewed that green planet.

Well, the conference seemed to be enjoyed by most though many of us felt it could have gone on for many more days. But, with a long drive ahead of us, we packed up our telescopes, our sunburns, our empty beer keg, a quickly stolen Riverside Telescope Makers' sign, and drove off down the mountain, muttering "wait 'till next year"

## A WORD PUZZLE by Don Machholz

Hidden in the box are these names. They are written to read down, up, left-to-right, right-to-left, and diagonally.

S E C S I P R E C N A C M E T M J U  
U O A R I E S R G I P A J O F Y K N  
I N I M E G U D O R W P Q T U R N M  
R U X S W O N Y S E D R X U T U O J  
A B R U G A A R B I L T G L A C O V  
T A A R E O R C R X R C Z P K R M L  
T H I U H S U N E V C O L P I E I P  
I V B A A V R A T A R R Z A E M S S  
G J I T O T J V I U R N O L T H E B  
A A U V S C O R P I O T N L Q S R C  
S R A M K E O N U J K U H A Y A E N  
N E P T U N E M J Q X H O S T L C V

### FIND

SUN  
MOON  
MERCURY  
VENUS  
EARTH  
MARS  
JUPITER  
SATURN  
URANUS  
NEPTUNE  
PLUTO

VESTA  
JUNO  
CERES  
PALLAS

ARIES  
TAURUS  
GEMINI  
CANCER  
LEO  
VIRGO  
LIBRA  
SCORPIO  
SAGITTARIUS  
CAPRICORN  
AQUARIUS  
PISCES