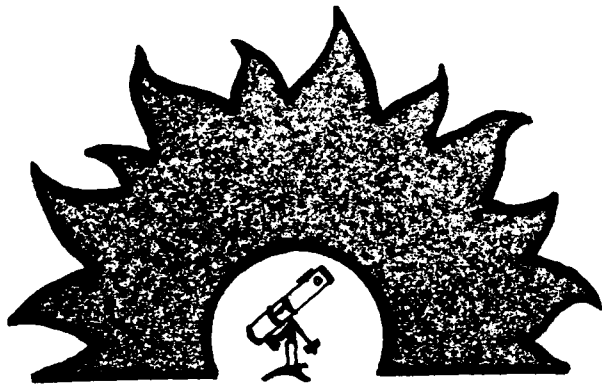




December, 1989

# PASTIMES

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PHOENIX ASTRONOMICAL SOCIETY -- FOUNDED 1948

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**The Next Meeting is December 15th, at Brophy Prep.  
(see map on the last page)**

Our meetings are at Brophy Prep. Brophy is located about a quarter mile south of Camelback Road, at the Highland Ave intersection. The meeting will be at **7:00 PM** in the Physics lab on the second floor.

Tim Hunter will be giving a talk covering photography, light pollution and a few topics in between,

The next Meeting will be on **January 19th.**

**A special Note of thanks to Fr. Bob Mathewson, S.J. (President of Brophy Prep.) and Fr. Fran Stiegeler, S.J. (Principal) for allowing PAS to use the facilities.**

## About the Speaker...

Tim Hunter will be arriving from Tucson to talk to The Phoenix Astronomical Society. He is currently working within the radiology department at the University of Arizona. The title for the topic of the evening is *Odds & Ends of Astronomy*, covering photography, his specialty - light pollution, and a few topics in between. Mr. Hunter is a very interesting speaker as we discovered last spring. Your attendance will be greatly appreciated as an addition to Mr. Hunter's presentation.

## We Remember...

by Chuck Nash

It is with regret that we announce the passing of one of our long-time members, Ted Paoloni. He had been a member since 1966 and was very well liked by all who had the privilege of knowing him, and his good-natured presence will be missed at our future gatherings.

## Exploring Space

by Paul Dickson

Just last October, Galileo was launched, making it the second Interplanetary mission launched this year. Magellan passed by Venus's orbit and is now headed back to earth's orbit (of course neither Venus nor Earth when these events occur). It will then head back to Venus's orbit and will arrive about the same time as Venus does. Magellan will reach Venus 3 months after Galileo.

This summer was the launch of Hipparchus, an astrometric telescope that was to be placed in geosynchronous orbit to measure the movement of stars. It was stranded in geosynchronous transfer orbit when its booster failed to ignite. It is still usable, but only around apogee which is about 25,000 miles. At perigee, it is about 600 miles up. There has been some worry about the constant passing through the Van Allen belts, but the degrading effects so far have been slight.

Next spring, Voyager II will start on a new Interstellar Mission. This will last for as long as the spacecraft can continue to send signals to Earth.

Getting in line for launches next year are the Hubble Space Telescope and Ulysses, an ESO spacecraft to be launched by the shuttle. Ulysses will travel to Jupiter in order to put itself in a Sun polar orbit. So for the first time ever, man will be able to observe what's happening as the Sun's poles.

Other missions to keep an eye out for are: the Mars Observer, scheduled to be launched in 1992; and the Comet Rendezvous and Asteroid Fly-by (CRAF) and the Cassini Mission, both of these are to be built using the same spacecraft so as to save money.

## Planetarium Report

by Harold Moorin

The idea of the Arizona Astronomy Center has been received with much interest by our members. Paul Lind and myself have volunteered to serve on the committee so far. More volunteers are needed for this committee as well as continued support by our members and their associates. All ideas are welcome. Dr. Paul Schmidtke of A.S.U. (the speaker at our November meeting) has informed us that he has access to a set of prints from the A.S.U. Architecture Department.

## It Happened at the Last Meeting...

by Kai Staats

November's meeting was warmed by the active discussion surrounding Paul Schmidtke's presentation on "Low Mass X-Ray Binaries." At first reading, this title may have appeared intricate and specific. However, Mr. Schmidtke's wide array of information covered many aspects of astronomy, all relating to the topic. The subject is a fascinating one, involving optical and radio astronomy, spectroscopy, and detailed analysis of only a handful of small pieces of data. If you missed this one, you missed a brainstormer!

## For Sale / Want Ads

This space is available for the inclusion of Ads that are intended for buying or selling of Astronomical equipment. Send your Ads to Paul Dickson. The deadline is the meeting night.

**For Sale:** 8" Newtonian \$200. Heavy equatorial head with solar rate drive and portable stand. No declination circle or eyepieces. Located at Mayer for pickup. Call Richard Lines 493-1976

**Wanted:** Eyepiece type spectroscope. Call Richard Lines 493-1976

**For Sale:** 8" Meade f/10 Cassegrain. Multi-coated optics, Bauch & Lomb Tripod. Call Jim Sexton 942-2231

## Your 1989/1990 PAS officers:

President  
Vice President  
Secretary/Treasurer  
Newsletter Editor  
Director  
Director  
Director

Kai Staats  
Mark Johns  
Keith Parizek  
Paul Dickson  
Hermann Andreason  
Dan Heim  
Dick Wasson

253-3077  
866-8311  
996-1013  
841-7044  
997-8759  
482-8133  
279-0384

Items to be included should be sent to Paul Dickson, 7714 N 36th Ave, Phoenix, Az. 85051

# Central Arizona Astronomers

East Valley Astronomy Club  
Phoenix Astronomical Society  
Saguaro Astronomy Club

# December 1989

Calendar of events

| Sunday                                                                                                                                                                                                                                                                                                                                              | Monday                                                                                      | Tuesday                                                                                                  | Wednesday                                          | Thursday                                                                                    | Friday                                                                                                                                                                                                              | Saturday                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <p>Calendar graphics reprinted with permission from <i>Sky Calendar</i>; subscription to complete monthly <i>Sky Calendar</i> available at \$6.00 per year from Abrams Planetarium, Michigan State University, East Lansing, MI 48842.</p> <p>All times MST<br/>M - members only<br/>MG - members &amp; guests only<br/>OP - open to the public</p> |                                                                                             |                                                                                                          |                                                    |                                                                                             | <p><b>1</b><br/>EVAC Star Party Usery Pk<br/>Sunset 5:20 pm<br/>Moonset 8:13 pm<br/>Sunrise 7:15 pm</p>                                                                                                             | <p><b>2</b><br/>EVAC Deep Sky Group Southern Site (MG)<br/>Moonset 9:17 pm</p>                      |
| <p><b>3</b><br/>Telescopes show Venus as a crescent, now one-third full and nearly 0.6" across. Watch Venus get larger &amp; thinner as it begins its swing between Earth &amp; Sun.</p>                                                                                                                                                            | <p><b>4</b></p>                                                                             | <p><b>5</b><br/>First quarter moon<br/>7:24 pm</p>                                                       | <p><b>6</b></p>                                    | <p><b>7</b><br/>Earliest sunset<br/>5:20 pm</p>                                             | <p><b>8</b><br/>All four Galilean satellites of Jupiter can be seen through binoculars this evening: Io and Europa to E of planet, Ganymede and Callisto to W. Tomorrow evening, all four will be W of Jupiter.</p> | <p><b>9</b><br/>SAC Christmas Party (MG)<br/>7:30 pm Steve Coe's</p>                                |
| <p><b>10</b><br/>Monocerotid &amp; chi Orionid meteors</p>                                                                                                                                                                                                                                                                                          | <p><b>11</b><br/>Sigma Hydrid meteors<br/>Moon Wed 13<br/>• Castor<br/>• Pollux<br/>ENE</p> | <p><b>12</b><br/>Full "Long Night" or "Before Yule" moon<br/>9:29 am<br/>• Jupiter<br/>• Rigel<br/>E</p> | <p><b>13</b><br/>EVAC meeting (OP)<br/>7:30 pm</p> | <p><b>14</b><br/>Geminid meteors before dawn (rated poor this year, too near full moon)</p> | <p><b>15</b><br/>PA S meeting (OP)<br/>7:00 pm</p>                                                                                                                                                                  | <p><b>16</b><br/>Evening: Mercury-Saturn 2 1/2"<br/>• Venus<br/>Mercury Saturn SW</p>               |
| <p><b>17</b></p>                                                                                                                                                                                                                                                                                                                                    | <p><b>18</b></p>                                                                            | <p><b>19</b><br/>Last quarter moon<br/>4:53 pm</p>                                                       | <p><b>20</b><br/>Delta Arietid meteors</p>         | <p><b>21</b><br/>Winter solstice</p>                                                        | <p><b>22</b><br/>Evening: Mercury at gr elong tonight, 20" E of Sun.<br/>• Venus<br/>Mercury Saturn SW</p>                                                                                                          | <p><b>23</b><br/>3 Sco Mars very close to 4th mag w/ Sco. Use telescope<br/>Antares SE</p>          |
| <p><b>24</b></p>                                                                                                                                                                                                                                                                                                                                    | <p><b>25</b><br/><b>MERRY CHRISTMAS</b></p>                                                 | <p><b>26</b><br/>Morning: December fireballs<br/>Mars<br/>Old Moon<br/>Antares SE</p>                    | <p><b>27</b><br/>New moon<br/>8:18 pm</p>          | <p><b>28</b><br/>Crescent Venus 13% full and nearly 0.9 degrees across</p>                  | <p><b>29</b><br/>Evening: Venus<br/>Young Moon<br/>Mercury SW</p>                                                                                                                                                   | <p><b>30</b><br/>SAC Star Party (MG)<br/>Sunset 5:30 pm<br/>Moonset 8:14 pm<br/>Sunrise 7:32 am</p> |
| <p><b>31</b></p>                                                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                                          |                                                    |                                                                                             |                                                                                                                                                                                                                     |                                                                                                     |

## Naked-eye Planets

Venus - brilliant in southwest sky for 3-2 hours after sunset.

Saturn - below and to the right of Venus, setting sooner each day.

Mercury - below and to the right of Venus by end of month.

Jupiter - brilliant throughout the night, rising at twilight and at sunset by end of month.

Mars - rising just before morning twilight.

