

Grasping Astronomical Distances


To get an idea of the tremendous size of our solar system, imagine for a moment that our Earth is just **one inch across**. At this scale, the distance from the Earth to the Moon would be 30 inches, and the Moon itself, just a quarter of an inch across. The size of the Sun at this scale is enormous, a sphere 9.1 feet across!

The distance from the Sun to the Earth would be 977 feet. As amazing as it sounds, even at this shrunken scale, the distance from the Sun to the outermost planet, Pluto, would be 7.3 miles!!

The astronomical distances are hard to grasp, yet astronomers deal with these values daily. To simplify their work, they created a unit of measurement called the Astronomical Unit (AU). One AU is defined as the distance from the Earth to the Sun (92,957,130 miles). While this makes the numbers more manageable when dealing with our Solar System, the distance between the stars dwarf even this measurement.

The nearest star to Earth is the Sun. When we see the other stars at night, they seem dim only because of the vast distances to them. In order to simplify interstellar distances, astronomers use another unit of distance called the Light Year (ly). This is defined as the distance that light travels in one year. How far is one Light Year? 63,240 Astronomical Units which is 5,878,500,000,000 miles! To put it another way, if our Sun was the size of a ping pong ball and was located in New York City, the nearest star would be another ping pong ball located in Chicago! This represents a fairly standard distribution of stars in the spiral arms our Milky Way Galaxy, and there are about a hundred billion stars in our galaxy. Astronomers estimate the Milky Way to be roughly 100,000 ly across. The closest star to our Sun is called Alpha Centauri at 4.3 ly away. It's 8.6 ly to the star Sirius, the brightest star in our night sky.

Astronomical distances may seem at the same time both awe-inspiring and unimportant as we turn our gaze upward in the evenings. Your eye can sweep across the breadth of the Milky Way in a moment, or linger while you contemplate the vastness of the space between the stars.



**ANTELOPE VALLEY
ASTRONOMY CLUB, INC.**

*A 501 (c)(3) Non-Profit
Organization*

On the web at:
www.avastronomyclub.org

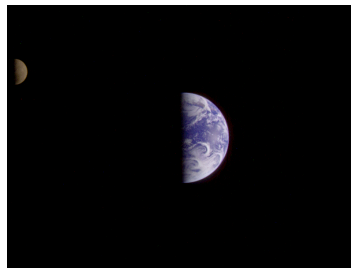
**Tel: (661) 724-1623
Or (661) 822-4580**

**ANTELOPE VALLEY
ASTRONOMY CLUB, INC.**

More Information:

Antelope Valley Astronomy Club, Inc.

P.O. Box 8545
Lancaster, CA 93539



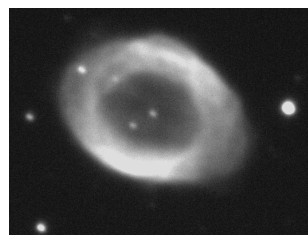
Phone: 661-724-1623
or (661) 822-4580
Email: info@avastronomyclub.org



M100 – Spiral Galaxy



Horsehead Nebulae



M57 – Ring Nebulae



We're on the web! <http://www.avastronomyclub.org>

You Are Invited to Join the Antelope Valley Astronomy Club!



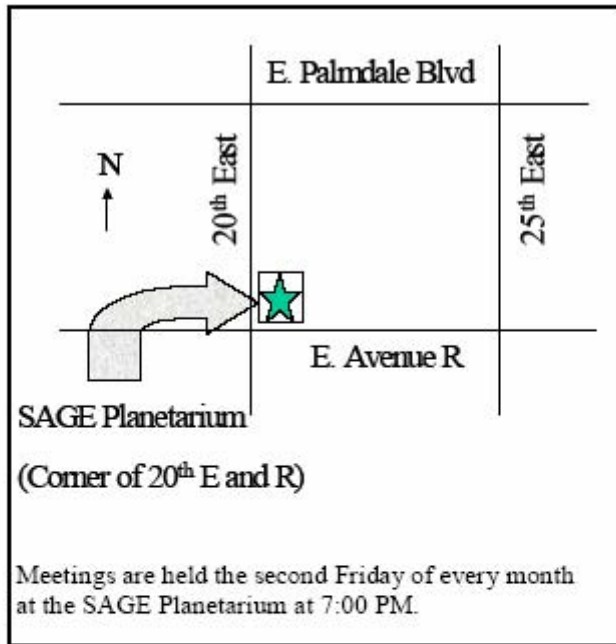
ANTELOPE VALLEY
ASTRONOMY CLUB, INC.

A 501 (c)(3) Non-Profit Organization

Monthly Meetings and Activities

The AVAC holds monthly meetings the second Friday of every month at the SAGE Planetarium, 38060 20th Street East, (located on the northeast corner of East Avenue R and 20th East) at 7:00 PM. The meetings include guest speakers and monthly programs about the fascinating night sky, while giving members and guests a chance to get together to talk about the stars or other topics of interest. We hold monthly public star parties and frequent 'deep sky' observing sessions as weather permits. We offer our members resources to help you learn more about astronomy including classes, telescopes and books.

Directions to the Meeting



AVAC Membership Application

AVAC Offers A Variety Of Membership Options:

- Family Membership Cost _____
(See Below)
- Individual Membership Cost _____
- Junior Membership (13 and younger) Total _____

Dues are prorated each month. See table below
Example: A Family Membership paid in June is \$17.50

Membership Dues

Month	Family	Individual	Junior
JAN	\$ 30.00	\$ 25.00	\$ 15.00
FEB	\$ 27.50	\$ 22.92	\$ 13.75
MAR	\$ 25.00	\$ 20.83	\$ 12.50
APR	\$ 22.50	\$ 18.75	\$ 11.25
MAY	\$ 20.00	\$ 16.67	\$ 10.00
JUN	\$ 17.50	\$ 14.58	\$ 8.75
JUL	\$ 15.00	\$ 12.50	\$ 7.50
AUG	\$ 12.50	\$ 10.42	\$ 6.25
SEP	\$ 10.00	\$ 8.33	\$ 5.00
OCT	\$ 7.50	\$ 6.25	\$ 3.75
NOV	\$ 5.00	\$ 4.17	\$ 2.50
DEC	\$ 2.50	\$ 2.08	\$ 1.25

Checks should be made out to 'AVAC'
You may mail them to the Club PO Box or bring checks or cash to the meeting. **Do not mail cash.**
You may also pay via PayPal on our website.

Name(s) _____

Address _____

Phone _____

e-mail _____

ANTELOPE VALLEY
ASTRONOMY CLUB, INC.

P.O. BOX 8545
Lancaster, CA 93539

Phone: 661-724-1623 or 661-822-4580
Email: info@avastronomyclub.org



Galaxy M101, Viewed Through A 10" Telescope