

# Iridium Satellite 'Flares'

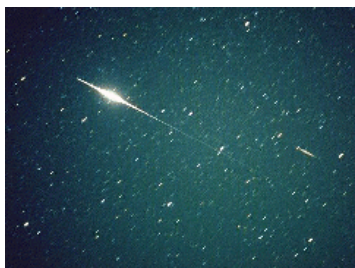
## What are Iridium 'flares' or 'flashes'?

The Iridium satellites are relatively small telecommunications satellites in a low Earth orbit. They were to be part of a world-wide system for communications operated by the Iridium LLC Corporation. The original plan called for 66 satellites in 6 orbital planes, at an altitude of around 780 km.

Each satellite has three main mission antennas, which are flat, highly reflective surfaces, that can reflect the Sun's rays to an observer on the ground when the Sun-Satellite-Observer geometry is correct. The satellite's attitude is controlled so that its long axis remains vertical, with one antenna always pointing forwards.

Given knowledge of the attitude, together with the orbital position of the satellite and the Sun and observer's location, it is possible to calculate the angle between the satellite, observer and the line of a perfect reflection of the Sun.

This is the so-called "mirror angle" and determines the brightness (magnitude) of the flare. This flare, or glint, usually lasts from five to 20 seconds. Some keen-eyed observers have even spotted flaring Iridium satellites in daytime skies.



Luckily, if you have access to the Internet, you don't have to do all of the calculations! All you have to know is your latitude and longitude (the more accurately the better), and the date. A visit to the free Heavens-Above website (see the URL below) will let you predict exactly when the next Iridium Flare will be. It will also let you investigate the details of the particular Iridium satellite that will cause the flare.

<http://www.heavens-above.com>

What will you see when you see a flare? Over the course of 5 – 10 seconds, you'll see a spot in the sky brighten rapidly to a brief flash, moving with the motion of a satellite, followed by a steady dimming that can last as long as 30 seconds. Have Fun!!! Amaze your family and friends!!!



**ANTELOPE VALLEY  
ASTRONOMY CLUB, INC.**

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

On the web at:  
[www.avastronomyclub.org](http://www.avastronomyclub.org)

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

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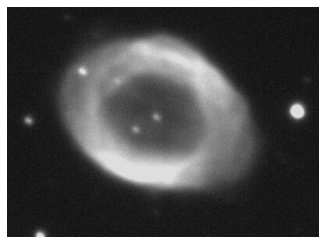
Email: [info@avastronomyclub.org](mailto:info@avastronomyclub.org)



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!



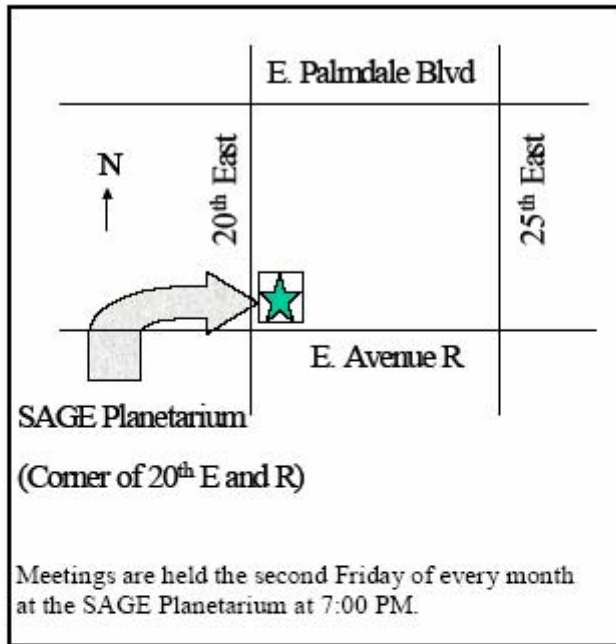
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## Monthly Meetings and Activities

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 \_\_\_\_\_

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e-mail \_\_\_\_\_

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Galaxy M101, Viewed Through A 10" Telescope