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Blind Love



Love is blind! Engraving from Harper's Weekly magazine (April 28, 1883) shows a woman viewing the transit of Venus through a telescope. Doing so with no solar filter would result in instant eye damage and likely blindness. Do not let June 5, 2012, be your blind date--use proper observing equipment and common sense.

Color image at <http://www.nmm.ac.uk/rog/Transit%20of%20>

2012 June 5-6 Eye Safety Galileoscope Solar Filter

Safe Viewing Techniques

To observe the transit of Venus directly you must protect your eyes at all times with proper solar filters. However, do not let the requisite warnings scare you away from witnessing this rare spectacle. You *can* experience the transit of Venus safely, *provided you use proper eye protection*. A variety of solar viewing devices available for purchase are listed at the [Store](#) page, or you can [build a Sun Funnel](#) for your telescope.



See <http://youtu.be/4RGr9FcBrSM> video or read [Viewing the Transit & Eye Safety at june2012/eye-safety/280-viewing-the-transit-eye-safety](#) for definitive advice on viewing the sun safely; by B. Ralph Chou, MSc, OD.

Galileoscope Solar Filter



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Chuck



Are you one of the 200,000+ people who has a Galileoscope that was developed for the 2009 International Year of Astronomy? If so, you can put your Galileoscope into service during the 2012 transit of Venus if you use one of two techniques for viewing the sun safely. Nothing in the sky is easier to find with a telescope than the sun.

First, you may purchase an inexpensive solar filter that fits over the large end of the tube.

The large end of the Galileoscope is just under 70mm in diameter, so you want a filter with an outer cell I.D. of 70mm\2.75". A suitable choice is the Solar Filter 70mm Black Polymer from Rainbow Symphony, which can be ordered from <http://www.rainbowsymphonystore.com/solar-filter-70mmblack.html>. As of this writing in mid-March, the \$15.00 filter is on sale for \$10.00. It comes with felt tape to give a snug, custom fit.

Solar Filter 70mm Black Polymer



Item #: 07770
Regular price: \$15.00
Sale price: **\$10.00**
Availability: Usually shi
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For the transit of Venus or for extended solar viewing, I would recommend additionally taping the solar filter securely to the Galileoscope's large lens shade/dew cap. To aim the telescope, point the filtered telescope in the general direction of the sun, then fine tune it by making the shadow cast by the telescope as small as possible. Then look through the eyepiece.

A second technique allows a crowd to view safely a projected image of the sun concurrently. Unfortunately, the lens of the Galileoscope is plastic, so you cannot do a standard sun projection without the likelihood of melting the plastic lens. The good news is that the scope was designed to work with standard-sized eyepieces. The solution is to make a Sun Funnel, an inexpensive device that you insert into the focuser instead of using the provided plastic eyepiece. For instructions and more details on how to use your Galileoscope for solar viewing, see <http://galileoscope.org/observing-activity-guides/observing-the-sun-safely/>.



Unattended Equipment Hazards

Always be aware of the power of the sun. Yes, it obviously can fry your eyes without your knowing it, for your eyeball has no pain receptors within. But there are other burn hazards. Keith Johnson of the Fleischmann Planetarium shares this story:

"Just to underscore the necessity of keeping constant watch on your telescope while it's pointed at the Sun... I was running a basic astronomy class lab in Tucson while I was in grad school one day, and we were observing the Sun with a white-light filter. I had placed a film container over the finder as usual. But apparently not firmly enough: it fell off at one point, and I didn't notice it.

One undergrad had come in her pajamas and bathrobe, believe it or not (it was an early-morning class). While she was peering intently through the main eyepiece, I noticed some smoke starting to come from the shoulder of her bathrobe. Sure enough, the finder had set her robe on fire! or at least smoldering..."



Safety Notice

Viewing the sun without proper equipment and/or techniques can result in serious eye injury and blindness. The solar observing descriptions and comments listed in this website are not an endorsement of any particular technique or product. Observers are responsible for their own eye safety. This website accepts no responsibility for the conduct of others in viewing the sun. For definitive advise on observing the sun, see *Viewing the Transit & Eye Safety*, by Dr. B. Ralph Chou, at <http://www.transitofvenus.org/june2012/eye-safety/280-viewing-the-transit-eye-safety>.

"It is never safe to look at the sun without proper eye protection. No filter should be used with an optical device (e.g. binoculars, telescope, camera) unless that filter has been specifically designed for that purpose and is mounted at the front end (i.e., end towards the Sun). Unsafe filters include all color film, black-and-white film that contains no silver, photographic negatives with images on them (x-rays and snapshots), smoked glass, sunglasses (single or multiple pairs), photographic neutral density filters and polarizing filters, computer disk media. Most of these transmit high levels of invisible infrared radiation which can cause a thermal retinal burn. The fact that the Sun appears dim, or that you feel no discomfort when looking at the Sun through the filter, is no guarantee that your eyes are safe. A person with eye damage from improper viewing may not notice the damage until hours later."

<http://www.leaderdog.org/>

For observers who refuse to view the sun safely--Leader Dogs for the Blind in Rochester, Michigan.

