

NOVAC

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A brief discussion about nebula filters

by Alan Figgatt

Nebula filters are useful accessories for the seasoned observer. But many beginners or even experienced observers confuse nebula filters with light pollution filters. Common questions are: what does a nebula filter do? Should I get one? If so, should it be a narrowband or an O-III? This article, which grew out of the Sky Tour I presented at the October monthly meeting, presents a very brief overview on nebula filters.

When we refer to nebula filters, it is important to make clear that these filters are not the same as simple color filters, which are used to bring out subtle features in planetary and lunar observing. Broadband and nebula filters are multilayer "interference" filters, which instead filter out specific light wavelength regions as shown in the diagram.

These filters can be broken down into 3 types:

- Broadband /Light Pollution
- Narrowband /UHC (Ultra High Contrast)
- Line: O-III (Oxygen-III), H-Beta (Hydrogen-Beta)

The diagram below (see page 7) shows the typical bandpass of these 3 types. This diagram presents a simplified representation of the filter bandpasses; see the diagrams from the various vendors for specifics on their filter response. The x-axis is the wavelength of light across the visual range from violet (400 nm) to deep red (700 nm). The y-axis is the percentage of the light that the filter passes at that wavelength. The Oxygen-III and Hydrogen-Beta and -Alpha labels mark the emission lines of oxygen and hydrogen.

Filtering light pollution

Broadband filters, which are also called light pollution filters, are not considered to be nebula filters. They have a much wider passband designed to aid with deep-sky observing in moderately light-polluted skies by blocking the most common wavelengths of light pollution—that produced by low pressure sodium and mercury vapor outdoor lamps—while providing for transmission of the rest of the visual spectrum. Broadband filters can help with deep sky observing to some

see "Nebula filters" on page 7

MESSAGE FROM THE PRESIDENT

Winter is a good time to observe

By the time you read this it is going to be cold. Some of the Nomads just curl up and hibernate for the winter. Others of the Ironman type bundle up and go. Check around for cold weather advice from the guys and gals that do the winter thing. There may be more clear nights but along with better transparency



NOVAC President Ed Karch

comes poor seeing, as in "twinkle twinkle, little star." One good thing about cold is that there is no dew, it turns to frost. As Ironman Dietz says "It's not nice when there is no ice." (See the Ironman's tips on page 2.)—Ed. ★

Star Gaze rescheduled for November 9 at Crockett Park

Unfortunately, the Star Gaze could not be held at Franklin Park on October 12 because Loudoun County closed all parks due to concerns about safety. The board has arranged with Crockett Park to hold the Star Gaze at C.M. Crockett park on November 9, which coincides with our public observing night there.

Many of the same events will be held, including speakers, solar observing, hands on demonstrations, and sky tours. Come on out and get ready for winter observing in Virginia! Dress warmly! See www.novac.com/gaze/ for more details.