

Re: Expensive Small Aperture Refractor?

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tony_flanders@xxxxxxxxxx wrote:

Shneor wrote:

Visually speaking, small, high quality refractors are great if you don't mind not being able to view 80% of what you can see ... with an 18".

Actually, I compute that as closer to 99%.

An 18" scope has 4.5x the aperture of a 4" scope, gathering 20.25x as much light, and allowing you to see equivalent objects 4.5x farther away. So for any given absolute magnitude of star or DSO, the 18" scope covers $4.5^3 = 91x$ times the volume. In other words, only one out of every 91 stars or objects visible in the 18" is visible in the 4" scope.

Doesn't that make it 1.1%???

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