

Re: Digital reflex vs Webcam

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On Mon, 06 Dec 2004 10:11:23 +0100, Danilo <nome@provider.com> wrote:

>Hello from Danilo.
>Today webcams give beautiful images of brilliant objects (Moon and
>planets) because of multiple exposure.
>What about using digital reflex (Canon 300d, Nikon d70 and d100) as a
>webcam for high resolution images?
>If we connect reflex to the Pc and take multiple images like a webcam,
>our results are better, or not?
>There is a crucial point: we must lock up the mirror.
>What about sensitivity? How we may compare webcam sensitivity (lux)
>with the digital reflex one (ISO)?
>Do you know any website with high resolution planets and Moon digital
>reflex images?
>
>Clear skies, Danilo

The webcam will generally give far superior results. Although any of the cameras you suggest are somewhat more sensitive than a webcam (not because of better quantum efficiency, but because of lower noise, which is what limits sensitivity for short exposures), they are not well suited to taking many exposures at a high rate. The principle behind using a video camera (such as a webcam) is that you are able to apply a sort of post-processed adaptive optics, rejecting images where the seeing was bad. In order to have enough good images to choose from and to combine so that noise can be acceptably reduced, you should have at least several hundred images. That is only possible with some sort of video device. Remember that in most cases, the rate of planetary rotation (especially Jupiter) requires that all the images be collected in just a few minutes.

There is really no reason to use anything other than a webcam for planetary imaging. A DSLR is not higher resolution than a webcam— both have pixels of the same size, and both are large enough to fully cover any planet. For lunar or solar imaging you might be interested in the larger sensor size of the DSLR, but in reality your seeing will be so wild over such a large FOV that you will lose the adaptive optics benefit, which really does only work over a narrow FOV.

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