Re: How about that Mars

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Hi All,

On Oct 25, 12:18 am, Quadibloc <jsav...@xxxxxxxxx> wrote:

> afterwards. (Deconvolution, of course, increases the noise level
> badly, so all the photons one can get are welcomed!)

Deconvolution increases the noise level when the spatial frequencies of the point spread function (PSF). For example, if you use the image of a star to restore an image of a planet, the noise in the image of the star produce high spatial frequencies that are not present in the scene, but are present in the image. Cleaning the PSF by removing the noise is an effective guard against over−amplification of the noise.

Other deconvolution hints are 1) do not compress the image in any way unless you are absolutely sure its lossless, 2) save all the bits you can, 8−bit images can be deconvolved, but 16−bits are better, 3) use a hamming window or similar if your deconvolution is FFT−based and your scene extends to the edges of the image, and 4) as mentioned here, set exposure to capture as many photons without saturating the sensor. Also keep in mind that the spectrum of a star is different than the spectrum of your object. The PSF is dependent on the spectrum of the object.

Best Regards,
Jim C

PS We have just released Tria, Version 2.0, and it includes PSF cleaning tools as well as a great image viewer. http://quarktet.com/Tria.html

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