

Re: How to know the maximum frequency of an image to apply a filter.

Re: How to know the maximum frequency of an image to apply a filter.

Source: <http://sci.tech-archive.net/Archive/sci.image.processing/2006-02/msg00230.html>

- *From:* "Harris" <xgeorgio@xxxxxx>
 - *Date:* 23 Feb 2006 15:06:40 -0800
-

I think your attention should be more to the image itself, rather than the filter. Instead of sampling, if you need to, you can always use the specifications of the continuous filter (profile and cutoff) to design a new -digital- filter that can be easily used with the image.

Otherwise, you just need to make sure your sampling captures the profile of the original filter correctly, not the image data. If there is reason to believe that the sampling frequency for the filter becomes too large, i.e. the produced "digital" filter has too many taps, then you should enlarge the image, NOT shrink the filter. In other words, you should either design a digital filter with the same specifications (the usual approach), or use a sampled form of the continuous filter but with the restriction of checking whether the conversion to the discrete frequency space is on the same scale as the physical features (content) of the image.

—
Harris

.