Subject: Re: Determing true resolution of an image?
Posted by chrisduckworth on Fri, 08 Mar 2002 06:28:09 GMT
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On 7 Mar 2002 13:51:31 GMT, wmc@bas.ac.uk wrote:

> Martin Downing <martin.downing@ntlworld.com> wrote:
>> "David Fanning" <david@dfanning.com> wrote in message
>> news:MPG.16eecdf16f798ad3989831@news.frii.com...
>>> William Connolley (wmc@bas.ac.uk) writes:
>>>> I'd like a procedure to take a digital image (a photo) and, by in some
>>>> way reducing the image and comparing the "inforamtion" left, to
>> determine
>>>> the "true" resolution. What I have in mind is to scan in an analogue
>> photo
>>>> at very high res, and to try to determine what res needs to be retained.
>>>
>>> What does "information" mean in this context?
>
> Well, I'm trying to compare analogue and digital images in a quantitative way.
> So "information" is the true resolution. Take an analogue image: I can scan
> it in at increasingly high res, but after some level the amount of info doesn't
> increase but the noise does.

It sounds like you want to do an MTF (modulation transfer function)
measurment. This is a some what common measurment. If I rember my DSP,
you need to scan the analog image at a rate of 2.15 times the analog
nyquest.
But, umm, this is probably the wrong news group for this stuff.

>
>> I was looking into something like this a while back, where I would interpret
>> "information" as representation of the theoretical object input image
>> signal. If you measure the FT of the output, you can look for the maximum
>> frequency at which there is still significant power above the noise level.
>> The resolution of the image could then be set to twice this frequency.
>
> Fourier transform is an interesting idea. I'll look at that, thanks.
>
> -W.
>
> --
> William M Connolley | wmc@bas.ac.uk | http://www.nerc-bas.ac.uk/icd/wmc/
> Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself
> I'm a .signature virus! copy me into your .signature file & help me spread!
>