Subject: Re: Re IDL w/ 12-bit grayscale?
Posted by JD Smith on Mon, 03 Apr 2006 23:19:51 GMT
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On Mon, 03 Apr 2006 09:41:05 -0700, kuyper wrote:

>
> Ertel, KG (Klaus) wrote:
>> Hello Mike,
>>
>> Is it really worth the hassle? My guess would be that you can't
>> distinguish more than, say, 10 grey levels by eye. ...
>
> Try this:
>
> image = rebin(replicate(1,256)#indgen(256),1024,1024,/sample)
> tvscl,image/16
> tvscl,image/8
> tvscl,image/4
> tvscl,image/2
>
> I could still easily detect the jumps in brightness level with image/4.
> It was a little bit harder for image/2, but I think I could still see
> them.

This is a really bad test. The eye is exquisitely sensitive to brightness contrast, but very insensitive to absolute fluxes. In fact, in the world of panorama creation (which I dabble in), blending stitched images together can leave unsightly seams in the sky when the actual bit value on two sides of a seam differs by only 1 (in 8-bit per channel images)! Have a read:

http://enblend.sourceforge.net/banding.htm

This usually motivates people to go to 48bit images, to leave room for post-processing. Yes, you heard me correctly.

Here's a better test:

IDL> a=bytarr(512,512)+128b & for i=0,511,64 do a[i+32:i+63,*]+=i/64+1b & tv,a

when do you see the bars separate? The deltas are a single (1/256) jump in gray.

JD