Subject: Re: Neither CONGRID nor REBIN...?
Posted by Wayne Landsman on Wed, 17 May 2006 10:29:34 GMT
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"greg michael" <greg.michael@gmail.com> wrote in message
news:1147859650.649956.118330@i40g2000cwc.googlegroups.com.. .
>
> I want to reduce an image by an arbitrary factor and have that it still
> looks ok - i.e. the pixels should be somehow averaged, not just
> sampled. CONGRID can handle the arbitrary part and REBIN the averaging
> part, but neither both. Anyone know a simple solution?

You might try the function frebin.pro in
http://idlastro.gsfc.nasa.gov/ftp/pro/image/frebin.pro
From the documentation

; EXPLANATION:
; FREBIN is an alternative to CONGRID or REBIN. Like CONGRID it
; allows expansion or contraction by an arbitary amount. (REBIN requires
; integral factors of the original image size.) Like REBIN it conserves
; flux by ensuring that each input pixel is equally represented in the
output
; array. The fact that frebin.pro conserves flux might be overkill
for you since you just want to ensure that the reduced image looks OK. But
image reduction should run pretty quickly.--Wayne Landsman

Subject: Re: Neither CONGRID nor REBIN...?
Posted by greg michael on Wed, 17 May 2006 11:18:33 GMT
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Thanks Wayne - looks to be just what I need. Must admit, I'm surprised
CONGRID doesn't do this anyway. As for flux conservation, I think
that's just a fancy way of saying 'average'!

regards,
Greg

Subject: Re: Neither CONGRID nor REBIN...?
Posted by James Kuyper on Wed, 17 May 2006 14:05:28 GMT
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greg michael wrote:
> Thanks Wayne - looks to be just what I need. Must admit, I'm surprised
> CONGRID doesn't do this anyway. As for flux conservation, I think
> that's just a fancy way of saying 'average'!

More accurately, it's a fancy way of doing averaging. When your new bins are related in the right way to your old bins, calculating the right average for the new bins is relatively simple. When they aren't, it can be highly non-trivial, and flux-conserving algorithms cope with some of the problems that can arise.

Subject: Re: Neither CONGRID nor REBIN...?
Posted by Michael Galloy on Wed, 17 May 2006 15:30:25 GMT
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greg michael wrote:
> I want to reduce an image by an arbitrary factor and have that it still
> looks ok - i.e. the pixels should be somehow averaged, not just
> sampled. CONGRID can handle the arbitrary part and REBIN the averaging
> part, but neither both. Anyone know a simple solution?
>
> thanks,
> Greg
>

The /INTERP keyword will make CONGRID use linear interpolation.

Mike
--
www.michaelgalloy.com

Subject: Re: Neither CONGRID nor REBIN...?
Posted by news.verizon.net on Wed, 17 May 2006 17:52:11 GMT
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The /INTERP keyword to CONGRID does use linear interpolation but as the documentation notes:

REBIN averages multiple points when shrinking an array, while CONGRID just resamples the array.

For example, if you are shrinking to a size that is an exact multiple (e.g. from 500 x 500 to 100 x 100) then adding the /INTERP keyword to CONGRID does absolutely nothing, since each pixel in the output image can be precisely mapped to a pixel on the input image. If you are not shrinking to an exact mulitple of the input size (e.g. 500 x 500 to 99 x 99) , then /INTERP provides more precise sampling, but still only samples every ~5th pixel rather than averaging.

--Wayne