Subject: Re: Congrid/Rebin Conundrum
Posted by wlandsman on Thu, 13 Sep 2007 13:48:28 GMT
View Forum Message <> Reply to Message

On Sep 13, 9:11 am, David Fanning <n...@dfanning.com> wrote:
> Hi Folks,
>
> How do you explain these results?
>
Well, first of all CONGRID ignores the /INTERP and CUBIC keywords when
shrinking an array. (There is no straightforward way to interpolate
when shrinking an image. Think about it for a while.)

So CONGRID is always just resampling your 4 x 4 array to a 1 x 1
array, so it just takes the value of data[0,0]. --Wayne

Subject: Re: Congrid/Rebin Conundrum
Posted by David Fanning on Thu, 13 Sep 2007 13:57:10 GMT
View Forum Message <> Reply to Message

wlandsman writes:

> Well, first of all CONGRID ignores the /INTERP and CUBIC keywords when
> shrinking an array. (There is no straightforward way to interpolate
> when shrinking an image. Think about it for a while.)
>
> So CONGRID is always just resampling your 4 x 4 array to a 1 x 1
> array, so it just takes the value of data[0,0]. --Wayne

OK, suppose I buy that. Then what is REBIN doing?

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Congrid/Rebin Conundrum
Posted by wlandsman on Thu, 13 Sep 2007 14:28:45 GMT
View Forum Message <> Reply to Message

On Sep 13, 9:57 am, David Fanning <n...@dfanning.com> wrote:
> wlandsman writes:
>> So CONGRID is always just resampling your 4 x 4 array to a 1 x 1
>> array, so it just takes the value of data[0,0]. --Wayne
>
> OK, suppose I buy that. Then what is REBIN doing?
>

REBIN is averaging as your example shows. So I am making a distinction between interpolation (finding a value at a point by using values at neighboring points) and averaging. In general, CONGRID is for interpolation (including nearest neighbor) whereas REBIN is for averaging (though it does use interpolation for expansion).

I should mention frebin.pro (http://idlastro.gsfc.nasa.gov/ftp/pro/image/frebin.pro ) which averages using partial pixels and thus, unlike REBIN, can shrink or expand to any size. --Wayne