Subject: Re: 3D congrid without interpolation
Posted by JD Smith on Sat, 14 Apr 2007 01:00:48 GMT
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On Fri, 13 Apr 2007 17:33:53 -0700, David Fanning wrote:

> JD Smith writes:
>
>> How is "nearest neighbor sampling" not interpolation? Does it
>> explicitly avoid knowledge of how the new array cell is positioned
>> w.r.t. the old one, and simply grab averages of nearby neighbors? Why
>> would this ever be preferable to a linear interpolation?
>
> I don't know. I guess it is preferable because it
> doesn't add new numbers to your data. (I never really
> thought about or cared how it was done, but I suppose
> someone ought to.)

Aha, well I guess it really does just pick the nearest neighboring cell,
so it is not interpolation (I presumed it was averaging over neighbors
without weighting).

```
IDL> a=findgen(5,5)
IDL> print,a
     0.00000     1.00000     2.00000     3.00000     4.00000
     5.00000     6.00000     7.00000     8.00000     9.00000
     10.0000     11.0000     12.0000     13.0000     14.0000
     15.0000     16.0000     17.0000     18.0000     19.0000
     20.0000     21.0000     22.0000     23.0000     24.0000
IDL> print,congrid(a,4,4)
     0.00000     1.00000     2.00000     3.00000
     5.00000     6.00000     7.00000     8.00000
     10.0000     11.0000     12.0000     13.0000
     15.0000     16.0000     17.0000     18.0000
IDL> print,congrid(a,4,4,/INTERP)
     0.00000     1.25000     2.50000     3.75000
     6.25000     7.50000     8.75000     10.0000
     12.5000     13.7500     15.0000     16.2500
     18.7500     20.0000     21.2500     22.5000
```

JD