Subject: Re: subpixel image movement by bicubic interpolation?,
Posted by Wayne Landsman on Thu, 04 Jun 1998 07:00:00 GMT
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Dyer Lytle wrote:

> So I thought I'd ask if anyone has a sub-pixel image movement
> routine based on bicubic interpolation that they would be willing
> to share.
>
The INTERPOLATE keyword has a /CUBIC keyword. I would simply replace the
line in bilinear.pro that reads

```
 return, interpolate(p, ix, jy)
```

with

```
 return, interpolate(p, ix, jy, CUBIC = -0.5)
```

I definitely prefer using a value of -0.5 for CUBIC, for reasons discussed in
this group about a year ago. (Note that the option to set CUBIC = -0.5 has
only been available since V5.0.)

The IDL Astronomy Library has the procedure RINTER which is equivalent to
INTERPOLATE with CUBIC = -0.5. Although slower, RINTER() has two possible
advantages: (1) one can optionally obtain the X and Y derivatives at the
reference points, which is useful if you are trying to estimate errors
introduced by the interpolation, (2) if repeated interpolation is to be applied
the same array, then some values can be pre-computed and stored in Common.
RINTER is available at http://idlastro.gsfc.nasa.gov/ftp/pro/image

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