Subject: Re: Creating a new image from an image input in IDL
Posted by bcubeb3 on Wed, 05 May 2010 11:38:23 GMT
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On May 5, 2:45 am, bcubeb3 <barry.brian.barr...@gmail.com> wrote:
> After typing this line of code:
> IMAGE=READ_TIFF(FILEPATH('/bin/butterfly.tiff'))
> help, IMAGE
>
> I get the output
> IMAGE BYTE = Array[3, 4800, 6000]
>
> Now I want to write a computer program to systematically loop through
> each of the n x n pixels of the image and to use a coordinate system
> in pixel units to compute new coordinates based on the formula theta_s
> = theta - (size parameter of your choosing in units of
> pixels)*theta_hat.
>
> The vector theta_s tells me where to look in the original image to
> extract intensity information which will then store in my image array.
> I will use a bilinear scheme when assigning new intensity values that
> will be stored for my newly created image array theta. Now I have no
> idea how to even begin. I was looking for stuff online and I was
> looking at help manuals but all efforts proved futile. Let me know of
> your suggestions and I greatly appreciate your help on this.
>
> -Barry

FOllow up.
Sorry for not being specific. The following describes the algorithm I have to code up but can't figure how to set up a blank n x n pixel image or how to compute new coordinates theta using a transformation

of your choosing or how to use the bilinear interpolation scheme to extract the intensity for each pixel. This is a gravitational lensing problem. Any help of any form is greatly appreciated. I am a newbie so I am new to IDL and it's hard for me to find the routine that does the trick since there are so many of them and I tried google with no luck. You don't have to solve the problem just a direction of where to start is much appreciated.

• Choose a size (in units of pixels) for the Einstein radius.
• Set up a blank n × n-pixel image-plane array (to match in size your n × n source image).
• Set up your computer program to systematically loop through each of the n × n pixels in your image-plane array.

to extract the intensity which you will then store in your image array

pixels in the original image. Therefore, you will need to interpolate the intensity among the nearest four pixels. A bilinear interpolation scheme is outlined below.

• Finally, after looping through all pixels in the image plane, and assigning the appropriate intensity values, you will have constructed the lensed image.
