
Subject: Re: How to add 5% poisson noise for a image in IDL

Posted by [wlandsman](#) on Fri, 12 Apr 2013 11:29:09 GMT

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On Friday, April 12, 2013 4:59:10 AM UTC-4, huiqian...@gmail.com wrote:

> Thank you for replying.

If you use poidev, adapted from Numerical Recipes,
(<http://idlastro.gsfc.nasa.gov/ftp/pro/math/poidev.pro>) then you can simply write

```
im = im + 0.05*poidev(im)
```

The problem with using the POISSON keyword to RANDOMU is that it only accepts a scalar Poisson mean. So one has to iterate over each value in the image, and compute the Poisson random deviate for that value. Here is some quick (not well tested) code to do this:

```
function addpoisson,im, seed = seed  
; return an image with each value replaced by a Poisson deviate  
h = histogram(im, min=0, reverse=rr)  
newim = im
```

```
for i = 0,N_elements(h)-1 do begin  
  if h[i] NE 0 then begin  
    sub = rr[rr[i]:rr[i+1]-1] ;Get subscripts  
    newim[sub] = randomu(seed,poisson=i)  
  endif  
endfor
```

```
return, newim  
end
```

--Wayne
