Subject: Re: realizing the formula in idl
Posted by Timm Weitkamp on Fri, 09 Sep 2005 08:40:24 GMT
View Forum Message <> Reply to Message

pravesh.subramanian@gmail.com wrote:

> How do I realize this formula in IDL?
>
> matrix(x, y) = 1/(s^2 * 2 * pi) * Exp (-(x^2 + y^2)/2 * s^2)
>
> let's say x = y = 300

I assume that by "x = y = 300" you actually mean that x and y are 1D arrays with approximately 300 elements each, right? The formula then describes a 2D Gaussian with width "s". Here is a way of doing it:

```
s = 100.0       ;  or whatever other value you want for the width
nx = 300        ;  number of elements of x
ny = 300        ;  number of elements of y
x = FINDGEN(nx)  ;  your x values
y = FINDGEN(ny)  ;  your y values

;  Blow x and y up to two dimensions

xx = x # (1.0 + FLTARR(ny))
yy = y ## (1.0 + FLTARR(nx))

;  ... and then the calculation of the Gaussian is as easy as this:

matrix = 1.0 / (s^2 * 2 * !PI) * EXP(-(xx^2 + yy^2) / (2.0 * s^2))
```

Hope this helps,
Timm

Timm Weitkamp
ESRF, Grenoble, France