
Subject: Re: realizing the formula in idl

Posted by [Timm Weitkamp](#) on Fri, 09 Sep 2005 08:40:24 GMT

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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

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