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Subject: Re: what is the dist function's mean?

Posted by [Benjamin Hornberger](#) on Fri, 22 Apr 2005 21:07:20 GMT

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lixiaoyao wrote:

- > Is there anybody who can explain the dist for me?
- > I know dist(100) generate a 100X100 matrix,but what is the value for
- > it
- > come from? In the help file,they said it is the frequency,but I do not
- > understand.
- > also,what is the purpose for this function?
- > Thanks a lot
- >

Maybe we should admit that the manual doesn't do a good job of explaining this function.

Dist will always return a 2-d array. "Frequency" is meant in the context of Fourier Transforms (and maybe others). If you F.T. a 2-d array, you can use DIST() to create an array with the spatial frequencies corresponding to the F.T. array. The division into quadrants comes from the way the FFT() function arranges its result. Check the help entry for FFT for more information.

If you SHIFT() the result of DIST() by (n/2, n/2), you get an array where each pixel value is equal to the distance from the center. This is useful to create arrays with circular symmetry (like circular apertures).

Benjamin

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