
Subject: IDL's built-in function DILATE and ERODE doesn't work as described in help

Posted by gqshen2008@gmail.com on Thu, 12 Oct 2006 02:33:59 GMT

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For example, if you have the data as `a = [0, 1, 1, 0]` and kernel as `k = [1, 1]`, according to the help provided by IDL, the result of running the code:

```
result = DILATE(a, k)
```

will be `[0, 1, 1, 0]`, however, IDL's output is `[1, 1, 1, 0]`.

ERODE performs in a similar way. Does that mean the help is actually broken?

Subject: Re: IDL's built-in function DILATE and ERODE doesn't work as described in help

Posted by gqshen2008@gmail.com on Mon, 16 Oct 2006 20:29:46 GMT

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I know this topic has gone beyond my initial question, but I have got a response from ITTVIS support.

In IDL, if you don't set the optional argument(s), `Nx`, `Ny` or `Nz`, IDL thinks that `Nx = DIMENSION(X) / 2`, which means that

```
DILATE([0, 1, 1, 0], [1, 1])
```

has the same effect as

```
DILATE([0, 1, 1, 0], [1, 1], 1)
```

which means that for every 1 in the data, it will align with `k[1]`, so the output is `[1, 1, 1, 0]`.

If you want to get the same result as in their help, you should explicitly set the `Nx` to 0.

One interesting thing is that you can set `Nx` to 2, 3, 5 or even -1, -2, etc.

Another interesting finding is that if you have:

```
DILATE([0, 1, 1, 0], [1, 1], 3)
```

My initial guess is that it will output `[1, 0, 0, 0]`, however, IDL will not replace 1 with `[1, 1, 0, 0]` unless any kernel's pixle overlays with the original data. So the real result is `[0, 0, 0, 0]`.

Notice the sudden jump of output from `[0, 0, 0, 0]`:

```
DILATE([0, 0, 1, 1], [1, 1], 3)
```

will output `[1, 1, 0, 0]`.

Gongqin Shen wrote:

```
> For example, if you have the data as a = [0, 1, 1, 0] and kernel as k
> = [1, 1], according to the help provided by IDL, the result of running
> the code:
> result = DILATE(a, k)
```

- > will be [0, 1, 1, 0], however, IDL's output is [1, 1, 1, 0].
 - > ERODE performs in a similar way. Does that mean the help is actually
 - > broken?
-

Subject: Re: IDL's built-in function DILATE and ERODE doesn't work as described in help

Posted by [David Fanning](#) on Mon, 16 Oct 2006 20:36:49 GMT

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Gongqin Shen writes:

- > Technically speaking, we can do that, but why we use IDL at all if we
- > have to put extra effort like that? I am sure many people here can
- > write most of IDL's routines by themselves. What IDL should do is
- > actually lessen the programming burden, not increase that.

Careful now. Radical ideas like this will get you cross-ways with the Chairman Emeritus of the IDL Expert Programmers Association. If IDL was so easy everyone could use it, this newsgroup would have to shut down and we would have to turn to The Onion (<http://www.theonion.com/>) to get our daily news fix. :-(

Cheers,

David

--

David Fanning, Ph.D.

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
