
Subject: Re: Iso-contours at maximum/minimum levels
Posted by [Jeremy Bailin](#) on Fri, 30 Jan 2009 15:04:17 GMT
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On Jan 29, 6:14 pm, Paolo <pgri...@gmail.com> wrote:

> David Fanning wrote:

>> Gianluca Li Causi writes:

>

>>> In order to find the iso-value lines of a 2D surface I'm using the
>>> CONTOUR procedure, which works very well except that it's NOT ABLE to
>>> compute the contour when the LEVEL equals the maximum or minimum of
>>> the function.

>

>>> I've the following simple fuction:

>>> Z = shift(dist(100, 100), 50,50)

>>> Z = abs(Z - max(Z)*.3)

>>> which have a circular minimum at LEVEL=0, but CONTOUR is unable to
>>> find it!

>

> Well, just set your minimum level to min(z)+epsilon,
> where epsilon is a small number (i.e. 0.001 in this case),
> if you have a very flat bottom you need to contour out.
> (but please note that your z does not have a flat bottom,
> so it's a poor example...)

>

> Ciao,

> Paolo

>

>

>

>> According to my colleague Matt, what you should see at the
>> minimum of a contour plot is....nothing! I think I have to
>> agree. A contour line is suppose to enclose something.
>> What could be enclosed at the minimum value of a data set?
>> Right. Nothing.

>

>> You could hold a flat sheet of paper under your 2D surface
>> and draw a line where the surface touched the paper. But
>> the word for that would be an "etching" or an "imprint",
>> not a "contour". What you want, and what a contour plot
>> is designed to give, are two different things. Or at least
>> it seems that way to us. :-)

>

>> Cheers,

>

>> David

>

>> --

>> David Fanning, Ph.D.
>> Coyote's Guide to IDL Programming (www.dfanning.com)
>> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
>
>

Paolo's suggestion makes perfect sense... but then I tried it and I'm befuddled. The minimum contour consists of just a few dots!

There's something funny about how it's drawing the contour that gets very confused by the abrupt change right at the minimum.

-Jeremy.
