
Subject: Re: Distinguishing between point-like and curve-like features

Posted by on Wed, 16 Jan 2013 09:49:34 GMT

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Den tisdagen den 15:e januari 2013 kl. 17:54:24 UTC+1 skrev David Fanning:

> Mats Löfdahl writes:

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>> I'm making image masks that are supposed to take out certain small point-like features. These features are usually just a few pixels wide but sometimes as much as about ten or fifteen pixels wide. Because there are other, more large-scale variations in the image, I base the mask on a unsharp masked version of the image, to make the features I'm interested in stand out more. Then I clean the mask with a morph_open operation to get rid of some raggedness of the edges of

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> the "holes" in the mask.

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>> This has worked fine, but I now have some images that have, in addition to the small features that I want to take out, also some high-amplitude curved fringes with similar width that I do _not_ want the mask to take out.

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>> I'm wondering if anyone can suggest a strategy for automatically (and reasonably fast) distinguishing between the point-like and the curve-like features. The masks I'm making either take both out or none, depending on the choice of parameters.

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>> I'm not looking for code here, but maybe some good ideas.

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>> (If you want the background, I'm trying to make bad-pixel masks for some CCD cameras based on flat fields that have significant interference fringes. The small features I want to mask out are clusters of bad pixels, both from the detector itself and due to near-focus dust particles. The purpose of the mask is to identify pixels with no information, where I have to interpolate to get useful values in the science images. Useful in the sense that those pixels do not cause

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> ringing artifacts when I do deconvolution.)

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> Maybe you could fit the features with an ellipse. It is possible, I

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> suppose, that curved features will have more elliptical character than
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> point-like features.
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> http://www.idlcoyote.com/ip_tips/fit_ellipse.html

Good point! I've been thinking in terms of operations on the whole mask or image but of course I get more control if I do `label_region` and work on the holes one by one. Then checking for elongatedness shouldn't be too hard, by fitting ellipses or by other means.

Thanks!

/Mats
