Subject: Re: coherence test implementation
Posted by Struan Gray on Thu, 13 May 1999 07:00:00 GMT
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Craig Markwardt, craigmnet@cow.physics.wisc.edu writes:

> As the two posters graciously have demonstrated,
> they were able to partially vectorize the algorithm.
> However, because your procedure involves *overlapping*
> portions of the same array, it will never be
> possible to fully vectorize it.

True, but you can always use the built-in function CONVOL with a kernal full of ones to do the local-area averaging. My IDL is installed elsewhere, so I can't check my code, but the following should give the right idea:

```
kernal = intarr(3,3)
kernal[*] = 1
squaremean = convol(image*image, kernal, total(kernal))
mean = convol(image, kernal, total(kernal))
standard_dev = sqrt(squaremean - mean*mean)
```

The nice thing about this method (in addition to running at native speeds) is that it is easily scaleable to larger kernals, and convol handles edge effects for you. The downside is that for big images it can soak up memory, especially if you convert the image to the next-largest data type in order to side-step data overflow problems.

Struan