Subject: Re: fast search
Posted by greg michael on Tue, 17 Oct 2006 14:15:12 GMT
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Hi Marie,

Also take a look at this thread...

http://groups.google.de/group/comp.lang.idl-pvwave/browse_th
read/thread/1d020842b165598a/8e57c4b2c3841851?#8e57c4b2c3841 851

A program to search for pairs closer than a given distance d in a point cloud. It recursively cuts up the volume until there are fewer than a given threshold of points in the subvolume, and then directly compares those few. At each cutting of the space, it's necessary to leave an overlap of d so that points in adjoining subvolumes aren't missed. I don't remember - looks like it might be necessary to check for the uniqueness of the solutions at the end. Anyway, the recursion is the fun part...

By the way, it looks like there are a lot of for-loops there, but they're powerful ones - each run of the loop cuts the space.

regards,
Greg

m.goullant@gmail.com wrote:
> Hi there,
>
> I have the following problem:
>
> ;data structure of an irregular point cloud
> x = points.x
> y = points.y
> z = points.z
>
> search radio
> radio = 8
>
> FOR i=0L,N_ELEMENTS(z)-1 DO BEGIN
>
> square = WHERE(x LE x[i] + radio AND x GE x[i] - radio AND y LE
> y[i] + radio AND y GE y[i] - radio)
> ;(...)
>
> ENDFOR
>
> I realize that WHERE will do the job, but at very low efficiency.

> WHERE
> makes no assumptions about the list being ordered. It seems to me it
> has
> to check every element of the array, requiring N steps for an N-element
> array
>
> There is a faster way to do this?
>
> thanks,
> Marie
