Subject: Looking for tetrahedra. Searching sorted lists.
Posted by cgguido on Mon, 08 Aug 2005 04:37:19 GMT
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Hi all,

I was wondering if anybody can suggest a fast algorithm (perhaps using the magic of HISTOGRAM :-o) to find tetrahedra. Let me explain.

I need to find quadruplets of mutually nearest neighbours id's in a nearest neighbour list.

I start with a list of nearest neighbours id's, NN which is a 2xn (n ~ 6e6 yep!) intarr and is sorted so that for any i:

NN[0,i] lt N[1,i] and
NN[0,i] le NN[0,i+1]

example input:

0 2
0 5
0 34
1 2 *
1 3 *
1 4 *
1 56
2 3 *
2 4 *
3 4 *
3 9
3 12
...

What I would like is an output of the form 4 x m (m is whatever it is) and each row contains the sorted list of ids for each quadruplet.

example output:

1 2 3 4 <-- Are all neabours to each other.
...

Currently my code takes (too) many hours to do this on Xeon 2GHz with 1.5GB ram and idl 6.0.

Any help or suggestions would be much appreciated!!

Gianguido

PS: I can post my code if you think it might help.