
Subject: Re: Neighbour-finding at large angles
Posted by [lima](#) on Mon, 26 Nov 2007 20:30:57 GMT
[View Forum Message](#) <> [Reply to Message](#)

Hi Mat,

Thanks for looking into alternatives to improve the efficiency of neighbor-finding-based clustering. The logic for non-projective (NP) neighbor-finding is based on the assumption that high-energy clusters point to the origin, which as you pointed out, is not true for some cases (like loopers). Note that this behavior mimics the original (projective) neighbor-finding implementation.

A possible extension which could be useful would be a new method allowing the user to provide (theta,phi) for reference, rather than assuming the origin as reference. This is easy to implement for NP geometries, as most of the infrastructure is already there. However, an equivalent method (with same interface) should also be made available for the projective segmentations as well -- Tony/Norman may want to comment on that.

Moreover, the clustering algorithm will have to provide the theta,phi reference as input to neighbor-finding method, and this requires new clusterers (preferable) or changes to the existing clusterers.

Other alternatives could, for instance, be based on the cluster energy and/or position and/or shape + direction w.r.t. the origin. Then the neighborhood window could be expanded, say from (1,1,1) to (1,3,3) or more. Again, this should be managed by the clustering algorithm, not the neighbor-finding method.

What do you think?

Guilherme
