Subject: Re: tracking clusters through multiple timesteps
Posted by manodeep@gmail.com on Tue, 21 Feb 2012 03:39:25 GMT
View Forum Message <> Reply to Message

On Feb 20, 5:08 pm, Ian_Ashpole <ian.ashp...@ouce.ox.ac.uk> wrote:
> Thanks for the replies both of you, i've a feeling this is going to
> take quite some time and head-banging-against-the-wall, but hopefully
> i'll find a suitable way. I better had anyway, it's the last chapter
> of my phd thesis and money is running low...!
>
> Best wishes to both of you
> Ian

Hi Ian,

This problem is similar to creating tracking halos (creating mergertrees) in astrophysical simulations. However, with particle data there is an unique particle ID that allows you to track halos through time. These are the steps you would need:

1. First generate the list of blobs at all timesteps

2. Match some unique identifier across timesteps. If you are going to use a pixel index, then you have a some sort of physical model as to how much the pixels can move in between timesteps - which translates into a fractional pixel search radius.

3. Come up with a weighting function that assigns one blob at timestep t0 to another blob at timestep t1. If you want to do it right, check out bipartite graph matching.

4. Check for erroneous assignments.

5. Cross your fingers that everything worked out :)

Its difficult but do-able..

Cheers,
Manodeep