Rendering and Movies with ag

Thanks to Andy Peterson for providing guidance on how to do this.

- execute the following command to set up povray environment (you only need to do this once):

```
cp -r ~cpo/.povray ~
```

- Run ag on suncatls{}[1:3]. **NOTE:** you must use the ag in **/afs/slac/g/suncat/bin** since that is a script which adds povray to your PATH.
- Select Tools->RenderScene*. For the "quick and dirty" approach, you can select "Render all frames". I believe you can also render the frames one at a time if you want to change viewing angles, for example. Povray, which does the actual fancy shading, etc., should run automatically, creating many .png files.
- use a command similar to the following to create the movie. You will have to modify it to reflect the names of your .png files. Also, the "%02d" field is appropriate if you have between 10,100 frames. You would have to change it to "%03d" if you had between 100 and 1000 frames. The "-qscale" flag controls the movie quality (1 is the best, but takes up the most space). "-r" controls the frame rate. **NOTE:** quicktime doesn't support all frame rates (the symptom of choosing a bad frame rate on my mac is the images look messed up). Empirically, 1 and 3 Hz works for quicktime.

```
/nfs/slac/g/suncatfs/sw/external/ffmpeg/bin/ffmpeg -qscale 1 -r 3 -i qn.%02d.png movie.mp4
```

- if you want to render every nth frame, you can use ag to select the pattern you want. For example, for every second frame:

```
ag x.traj@::2
```