This document provides a quick summary on how to use Paraview to create a MPEG movie format for your simulations.

Assumptions

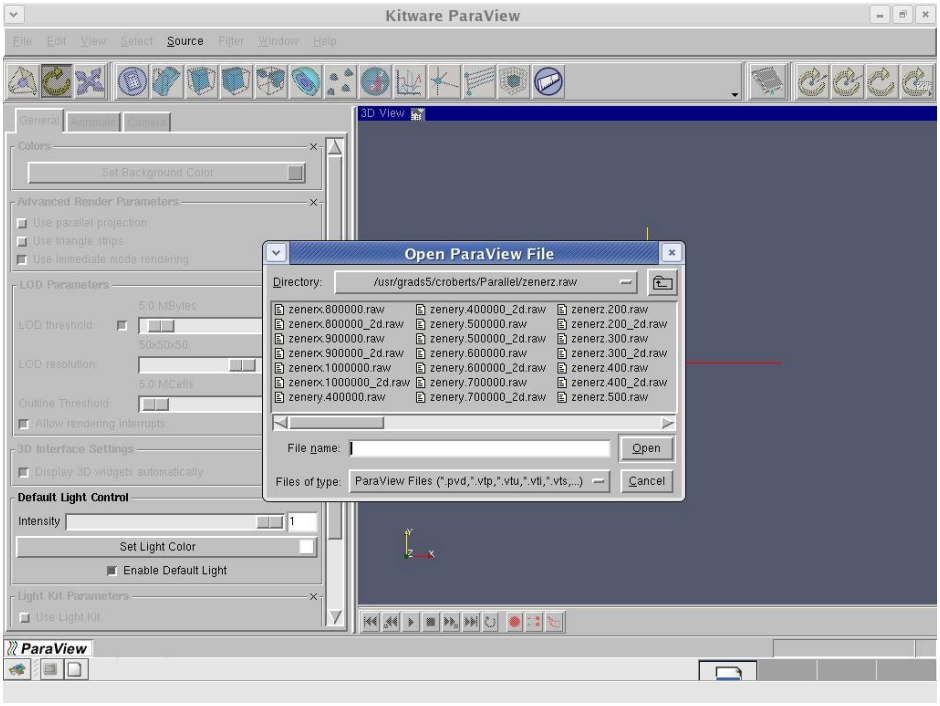
1. Paraview 2.4.3 or 2.4.4 is loaded on your workspace.

2. Data files are in the binary format (C/C++) or unformatted (Fortran).
   Ex: I have an MC simulation for a 200 x 200 x 200 domain. Each data file will contain a 'spin value' for each lattice site. The data file may contain a header, but I don't recommend it. If you need help converting an ascii file to the Paraview (*.raw) format, contact croberts@andrew.cmu.edu

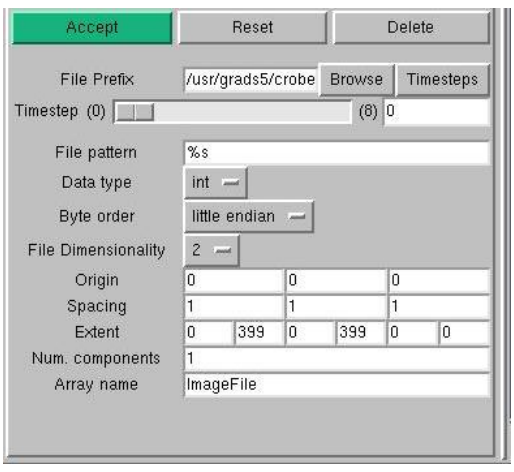
Method

1. Load Paraview. At prompt, type 'paraview' + Enter

2. Click on 'File' and then 'Open. Search for your 1st file (t=0). Highlight this file and click 'Open'

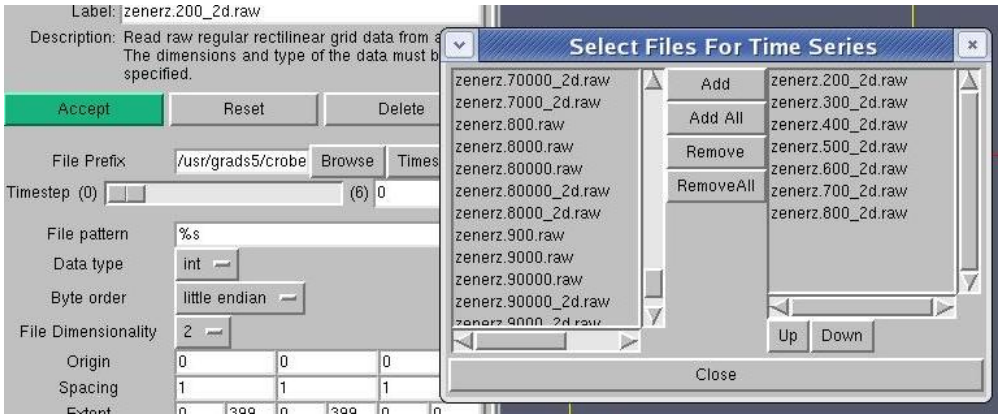


3. You will be prompted to select a 'READER'. Scroll down and select Binary (raw) Reader.

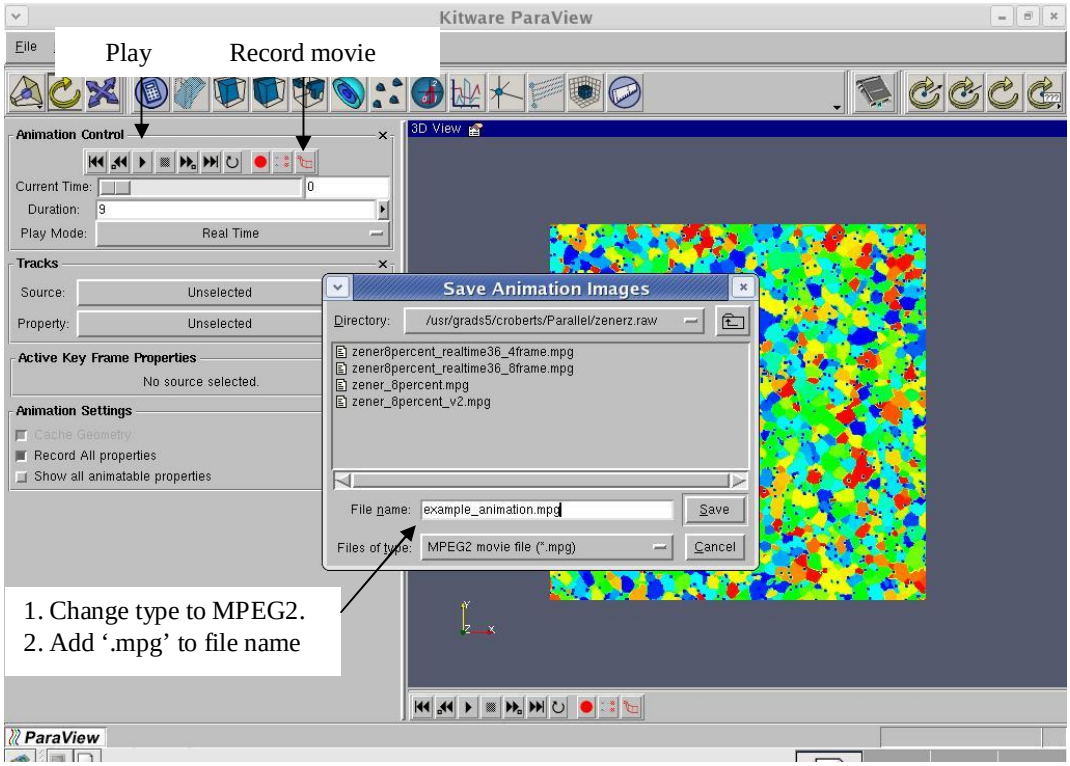


4. Define your file attributes.
   a. Data type = int (4 bytes)
   b. Byte order = little endian (Roberts and MRSEC computers)
   c. Extent = 'dimensions of modeling domain'. Follows C/C++ standard where 1st value is assigned to array index zero.

5. Do **NOT** hit ‘ACCEPT’. Click on the ‘Timesteps’ tab. Add your time files in increasing order as shown in the example. When finished, click on ‘Close’.



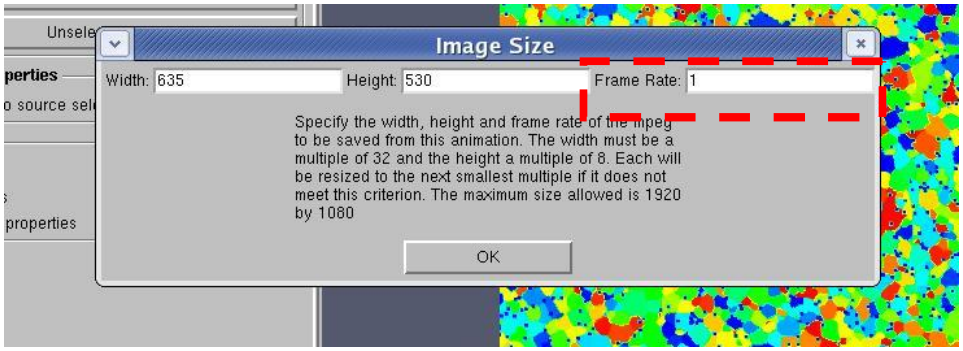
6. Now you can load the files into memory by clicking ‘Accept’ (green button).
7. Under the Display Tab, change the display representation from ‘outline’ to ‘surface’.
8. Next, we must scale the color map accordingly. Click on the ‘DISPLAY’ tab. Click on the Color Map tag. Modify the scale from zero to ‘X’, which depends on your system parameters.
9. Click on View and select the ‘Animation’ Window.
10. In the animation control panel, it should have the (total number of frames – 1). Click on the ‘Play’ button to watch the movie.



11. Change the ‘Play mode’ tag to real-time. The total number of frames should equal the number of files loaded. Now, click on the ‘filmstrip’ button. A prompt will appear to save the current setup. Change ‘Files of Type’ to the MPEG2 movie format. Define the name of your movie and add the file extension to the complete filename. (There is a glitch in the software. If you don’t add your file extensions, the file will be of an unknown type).

12. The next prompt will ask about image size and frame rate.
    a. The image size does not need to be adjusted, the software will automatically alter it to maintain the x and y aspect ratios.
    b. Frame rate is very important. This option allows you to extend the length of your movie by slowing down the procession from image to image. The frame rate value will extend your playback time by (frame rate x realtime).
    Ex: I have 10 images, which require 10 seconds to run. If I change frame rate to 4, it will take 40 seconds to complete the movie. (This is not exact)

Use various 'frame rate' values and play back in your Windows Media Player (WMP) to determine the correct length for your presentation. The (frame rate x realtime) value is greater than the time of the movie when played in WMP.



13. You're finished. You can exit Paraview. The mpeg-2 format can be played in the Windows Media player if you download a special Codec called 'Stinky's MPEG 2 CODEC'. Google this subject to find the download site and install it on your windows platform. http://www.free-codecs.com/download/Stinky_MPEG_2_Codec.htm