
Subject: Re: Large File Plotting

Posted by [John-David T. Smith](#) on Fri, 06 Oct 2000 07:00:00 GMT

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Mark Przeslawski wrote:

>
> Does anyone have an example of plotting
> very large time history data files. I tried
> creating a 1 million point file and it plotted
> okay. I tried a 10 million point file with
> various plotting routines and it hung my
> Windows 2000 machine (PIII, 700MHz,
> 256Mb RAM). I tried plot, live_plot,
> and some of the coyote plotting
> routines to no avail. What is needed is
> something that can detect file size and
> only display to the pixel resolution of the
> screen.
>
> Also, does anyone have experience pushing
> this size data through the signal processing
> routines? These are not atypical file sizes
> that I need to handle.

With this many points, 2-d plots will simply not convey the information contained in the data, no matter what the display medium. You could indeed use averaging or exclusion techniques to reduce the number of points plotted. A better technique in many cases is to convert your 2d value vs. time data into a 3-d value-time-density image, where density is the number density, i.e. $dN/dvdt$. You generate the density by binning into an appropriate number of 2d time*value elements, including estimated errors if necessary (individual points smeared out with varying weight over several bins). This image can be displayed inside of the plot region using whatever colormap and scaling suits you, or even with a contour map.

Good luck,

JD

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