Subject: Re: Make TV a function of X?
Posted by Craig Markwardt on Thu, 06 Jan 2000 08:00:00 GMT
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raouldukey@my-deja.com writes:
> I have a data set that is irregularly sampled, and I
> need to make an image-type plot of this data, and was
> hoping to get some suggestions on the best way to do this.

It's not totally clear what you are doing here, but I assume that each of your samples is actually a *vector*, and that they are irregularly sampled in time. But maybe it's more appropriate to say that you have uniformly sampled data separated by irregular gaps. Right?

I have had a hard time representing the same kind of data. My best technique so far is to label the X axis as "sample number," and let them appear uniformly sampled. Then I place a vertical separator lines whenever gaps would be. Finally, you might want to label each continuous segment with the time if you have room. Not perfect, but what can you do?

> BTW, I am using Craig Markwardt's plotimage.pro proceedure,
> to do my image plots, and I recommend it highly!

Why thanks!

Craig

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
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Subject: Re: Make TV a function of X?
Posted by wbiagiot on Fri, 07 Jan 2000 08:00:00 GMT
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In article <854pqnlpa1@nnrp1.deja.com>,
raouldukey@my-deja.com wrote:

>
> I am thinking I will have to make some sort of fake data set by
> making a fake time array and put the data in where it exists, and
> fill it with zeros where it doesn't. Yuck! This has to be
> a common problem, so has anyone else thought of a solution?
>

> Cheers

Raoul,

Well here's a long shot. I took interest in your problem because there is a possibility that I might encounter something similiar.

Try a thumbnail approach:

In window A, display the main waveform over the entire time span resampled to some reasonable data length (2k-8k pts ?). Make sure that every pulse GROUP is represented on the plot, even if you have to do it artifically - avoid aliasing. This is kinda like a thumbnail. Enable the window for mouse events. Allow the user to place the mouse anywhere on the plot (choosing a pulse train of interest) and click. Decode the event, obtain the X position of the mouse and translate it into units of your X scale. That should determine which group of pulses is being targeted. Knowing that, pop up a secondary plot window showing that pulse train in detail - possibly using a plot with a slider on the X display range if the number of points is large.
The alternative is to have the 2nd window track the mouse in realtime - decoding on the fly and presenting the data continuously. The 2nd window would only update if the mouse is over an 'active region'.

Obviously, this is just an outline with alot of gaps to be filled in. I have used some parts of this idea on images (which are waveforms anyway) and am very satisfied with the results. Learned alot of IDL functionality in the process.

Good Luck,

Bill B.

--
"They don't think it be like it is, but it do."

Oscar Gamble, NY Yankees

Subject: Re: Make TV a function of X?
Posted by raouldukey on Fri, 07 Jan 2000 08:00:00 GMT
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Sorry for the confusion, but you have figured out what I am trying
to do.

>
> raouldukey@my-deja.com writes:
>> I have a data set that is irregularly sampled, and I
>> need to make an image-type plot of this data, and was
>> hoping to get some suggestions on the best way to do this.
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> It's not totally clear what you are doing here, but I assume that each
> of your samples is actually a *vector*, and that they are irregularly
> sampled in time. But maybe it's more appropriate to say that you have
> uniformly sampled data separated by irregular gaps. Right?

Right! I am dealing with radar sampling. When a pulse is transmitted,
the return echo is uniformly sampled, and is the same from pulse to
pulse. However, the frequency (pulses/sec) of the pulses changes, plus
there are gaps where it was turned off for whatever reason.
are gaps

The image plot style is perfect for this sort of experiment, using
time for the x axis and range for the y axis.

>
> I have had a hard time representing the same kind of data. My best
> technique so far is to label the X axis as "sample number," and let
> them appear uniformly sampled. Then I place a vertical separator
> lines whenever gaps would be. Finally, you might want to label each
> continuous segment with the time if you have room. Not perfect, but
> what can you do?
>

Thanks for the suggestion, however, it won't work in this case. I
have to have a meaningful time axis, so that I can compare to the
other instruments that were operating. Also, I am dealing with
thousands of pulses, so I can't label the time easily.

I am thinking I will have to make some sort of fake data set by
making a fake time array and put the data in where it exists, and
fill it with zeros where it doesn't. Yuck! This has to be
a common problem, so has anyone else thought of a solution?

Cheers