
Subject: Re: Realtime in PV-Wave

Posted by [rivers](#) on Mon, 21 Jun 1993 02:20:53 GMT

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In article <18JUN199312401085@mars.lerc.nasa.gov> uubrian@mars.lerc.nasa.gov (Brian Bentz) writes:

> Hi everyone,

>

> I'm very new to the group, so I'm not up on what's been discussed
> in the past. However, I'm working on doing some real-time work with
> PV-Wave. I'm curious who all out here on the group have done this kind
> of thing, and what they've done with it. I'm looking for some ideas,(and
> frankly, someone to ask questions because I'm still fairly new to wave
> anyway) Feel free to post, (or write, if this is such an old topic that
> nobody wants to see it anymore) Thanks!

>

> Brian

> --

> Brian Bentz, Summer Intern
> NASA Lewis Research Center
> MS 142-2
> Cleveland, OH 44135

>

We have been using IDL for real-time data collection for several years now. The applications include a soft-xray scanning microscope with real-time image display, a hard-xray trace element microprobe and a microtomography system.

All of these applications use the CALL_EXTERNAL procedure to call routines written in other languages (Fortran or C) which actually collect the data. Structures and arrays are passed to/from IDL to control the data acquisition and to pass the results back. Most of the applications use the widget toolkit to build point and click IDL interfaces. The widget "background" routine does the data display. In IDL 3.1 this is more flexible since one can define update rates for such background tasks.

For low data rate applications (<~10 points/second) the data collection loop can be written in IDL. Higher data rate applications will require that the individual data points be collected in the external compiled routines or in hardware.

The advantage of using IDL or PV-WAVE is the ease of programming and debugging the hardware and the fact that the data being collected can be analysed/displayed without invoking another program.

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For low data rate applications (<10 points/second)

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Mark Rivers (516) 282-7708 or 5626
Building 815 rivers@bnlx26.nsls.bnl.gov (Internet)
Brookhaven National Laboratory rivers@bnl (Bitnet)
Upton, NY 11973 BNLX26::RIVERS (Physnet)
