Subject: Re: Inexpensive / free-ware similar to IDL? Posted by grunes on Sun, 26 Sep 1999 07:00:00 GMT

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I for one find this very interesting, and think the post did us all a great service.

Do any of these products have all of the following characteristics (which IDL and WAVE both have):

- (1) Ability to handle arrays of arbitrary dimensionality (not just 1 or 2 or 3 dimensions), of 1, 2 and 4 byte integers, 4 and 8 byte reals, and 8 and 16 byte complexes (actually, WAVE omits the 16 byte complexes, last I checked).
- (2) Ability to read raw bytestream files containing mixtures of 1,2 and 4 byte integers, 4 and 8 byte reals, and complex numbers. We all frequently need to handle other-people's-data-format files.
- (3) Ability to reverse byte orders of those data types, so we can easily interpret data from other types of machine.
- (4) Can produce PROFESSIONAL-LOOKING (e.g. not GNUPLOT-like) 2D plots, with professional looking fonts. Can overplot other plots and isolated points on the same plot frame in other colors. Should be able to display to screen, and output to postscript, and output to an image file would also be nice.
- (5) Can display images easily, with user settable pseudo-color tables. Same comments about display and output as above.
- (6) Can read and write common image formats, like TIFF and GIF.
- (7) Has support for matrix operations (inversion, solution of equations, eigen-values and eigen vectors), for the most frequent transcendental arithmetic operations you find on scientific calculators.
- (8) Allows you to draw buttons (or at least text) on a graphics screen, and can detect the press of a mouse button and where it occurred--useful for setting up one's own GUIs. Another capability that is nice (but not essential) is the ability to detect single key presses.

If any of the free packages meet all this, I might well switch for some purposes, especially if they run as fast or faster than IDL/PV-WAVE, and run on multiple platforms.

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