Subject: Re: Top 10 IDL Requests
Posted by landsman on Mon, 17 Jul 2000 07:00:00 GMT
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Here are my wishes for math updates in IDL:

1. My longtime wish is to update the "Numerical Recipes" which call a user-specified function (e.g. QROMB, LMFIT) and currently require the user function to accept a scalar argument and return a scalar value. This goes against the spirit of IDL and makes the routines unacceptably slow for most real-life applications. (I wonder if it is a problem with the licensing agreement with Numerical Recipes that prevents modifying the routines to make them more IDL compatible.)

2. Median filtering is a non-linear operation which cannot be easily vectorized, so I would like to see more capabilities in the MEDIAN function:

1. Allow separate specification of the X and Y filter size (e.g. im1 = median(im,[15,3]), which would be useful, for example, in removing bad columns. 2. For 2 or 3 dimenional images, allow MEDIAN to work over a specified dimension, e.g. for removing cosmic rays from a stack of images in a 3 dimensional array. (This capability would also be useful in MIN and MAX.) 3. Allow the user to specify a "kernel" (as with CONVOL) specifying weights to be assigned to pixels within the filter size. One such application of a such a generalized median is described at
http://adsabs.harvard.edu/cgi-bin/nph-bib_query?bibcode=1995 PASP..107..496S&db_key=AST&high=38aaedbba709215

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