Subject: Re: Can this be done using CALL_FUNCTION?
Posted by Martin Schultz on Tue, 07 Mar 2000 08:00:00 GMT
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edward.s.meinel@aero.org wrote:
>
> OK, here's one for the IDL gurus (since I'm only a little guru would
> that make me a gu-gu?)...
>
> I am working with spectral images. Unfortunately, IDL is geared toward
> multidimensional data in which all of the dimensions are the same type
> (i.e. spatial, spectral, frequency...) but it doesn't like to operate on
> data with mixed dimensions, such as a multispectral image (unless I'm
> missing something really obvious).
>
> Rather than having to rewrite every bloody function/procedure for
> spectral imagery, I was hoping it would be possible to write a generic
> wrapper function along the lines of:
>
> FUNCTION spatial_function, name, image, other_stuff
> im_size = SIZE(image)
> CASE im_size OF
> [... rest of code snipped][/color]

Ed,

in a perfect world you could do this, although you should add
_EXTRA=e to your wrapper to allow for keywords. Unfortunately,
several of the built-in (or library) functions are not forgiving
when it comes to the wrong number of parameters and keywords. Therefore,
you will probably not get around doing something (ugly) like:

```
function spatial_function, name, image, arg1, arg2, arg3, arg4, _EXTRA=e

  im_size = SIZE(image)
  CASE im_size OF
    ...
    CASE n_params() OF
     2 : CALL_FUNCTION(name,image)
     3 : CALL_FUNCTION(name,image,arg1)
     4 : CALL_FUNCTION(name,image,arg1,arg2)
     ...
    ENDCASE
  ...
```

A way around this? Well, you could rewrite all the functions you would
potentially call from such a wrapper and give them extra arguments which

are simply ignored if they are not needed.
Example:
change
FUNCTION Correlate, X, Y, Covariance = Covariance, Double = Double
into
FUNCTION Correlate, X, Y, DUM1, DUM2, DUM3, DUM4, DUM5, DUM6, $
Covariance = Covariance, Double = Double

And if the function doesn't have keywords, add _EXTRA=e to it.

Good luck,
Martin

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[[[
[[Dr. Martin Schultz   Max-Planck-Institut fuer Meteorologie   [[
[[Bundesstr. 55, 20146 Hamburg   [[
[[phone: +49 40 41173-308   [[
[[fax: +49 40 41173-298   [[
[[martin.schultz@dkrz.de   [[
[[[