Subject: ENVI and complex data
Posted by William Clodius on Wed, 11 Jun 1997 07:00:00 GMT
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I have ENVI 2.6 running with IDL 4.0 on an SGI IRIS 6.4 system. I have
some complex image data produced by FFT's on which I want to perform
some processing. While ENVI accepts complex data on input I have the
following problems

Spectra appears to display complex numbers as the negative of the real
part.

Band Math refuses to accept procedures that require complex data, even
though the only available bands are complex dimensioned 128 by 128. For
example if I want to display the imaginary component the Band Math
Widget displays the message "You have entered an invalid expression.
Check for syntax errors or undefined procedures and functions and try
again." while the command line displays "% IMAGINARY: Operand must be of
complex type: <INT   Array(5, 5)>." and does not provide access to
the bands. The command line message is particularly confusing as I don't
see where it comes up with "Array(5, 5)".

Even with procedures that do not require complex data Band Math appears
to give incorrect results, i.e., 1. - Float(B1)/Abs(B1) appears to
operate as if abs operated only on the real part of the complex number.

Principle components operates and gives plausible results, but it is not
clear whether it uses complex math in the principle components analysis
or only uses the real part of the complex numbers.

Does anyone else have experience with complex data and ENVI?

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