Subject: Eigenvalues

Posted by Javier Sanchez Gonzal on Wed, 10 Nov 1999 08:00:00 GMT

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Hi all,

I would like to know if there are some procedure to extract complex matrix�s eigenvalues when this matrix is complex.

Subject: Re: Eigenvalues

Posted by address on Fri, 12 Nov 1999 08:00:00 GMT

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In article <38299C7E.B9CAE41B@gbt.tfo.upm.es>, Javier Sanchez Gonzalez <jsanchez@gbt.tfo.upm.es> wrote:

- > Hi all,
- > I would like to know if there are some procedure to extract complex

I guess you will have to use a trick to do an SVD on a complex matrix. The trick I used is from Numerical Recipes:

$$[A + iC]$$

is your complex matrix, A real part and C the imaginary. Do the SVD on the real matrix:

To solve a system of linear equations for example:

$$[A + iC][x + iy] = [b + id]$$

$$[A -C][x] = [b]$$

 $[C A][y] [d]$

You lose a factor of two in efficiency solving the big real matrix instead of the smaller complex one, the alternative is however interfacing a complex SVD c routine to IDL. Also a lot of work.

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