
Subject: Re: Eigenvalues

Posted by [address](#) on Fri, 12 Nov 1999 08:00:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

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:

$$\begin{bmatrix} A & -C \\ C & A \end{bmatrix}$$

To solve a system of linear equations for example:

$$[A + iC] [x + iy] = [b + id]$$
$$\begin{bmatrix} A & -C \\ C & A \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} b \\ d \end{bmatrix}$$

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.

--

```
\\||/  ASCII Ribbon campain against HTML mail  /\
>|- o|<  I was never sure about anything anyway...  \/
-----oo0 U -Ooo-----X
                        /\
```