Subject: generalized eigenvectors
Posted by Tron Darvann on Mon, 15 Apr 2002 14:53:44 GMT
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I have a question concerning solving a GENERALIZED EIGENVALUE PROBLEM in

IDL.

Description of the problem:
I need to find the eigenvalues and eigenvectors of
Ax = kBx
where both A and B are nXn matrices and k is a scalar.

The solution to this can be computed in MATLAB by their "eig" function,
which, according to their documentation uses a math/statistics software
called lanpack.

Question: Does IDL have a similar routine? Do you have any suggestions
as to how to solve a generalized eigenvalue problem in IDL?

Thanks in advance,
Tron Darvann

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Subject: Re: generalized eigenvectors
Posted by Randall Skelton on Tue, 16 Apr 2002 15:43:41 GMT
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This is a good point. Instead of Ax = kx you have Ax = kBx or (B^-1 A) x =
kx for the "generalized" form. I certainly hope B is nonsingular...

Cheers,
Randall

On 16 Apr 2002, Mirko Vukovic wrote:

> Randall,
>
> the generalized eigenvalue problem involves two matrices, while the
> routines you suggest will solve the ``ordinary'' eigenvalue problem
> that deals with one matrix only. Take a look at the original post
> (included below), and you will see what I mean. (BTW, that is about
> the extent of my expertise on the subject).
>
> Mirko
> ... stuff deleted

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>
