
Subject: Re: Lanczos diagonalisation with IDL

Posted by [Richard French](#) on Fri, 08 Dec 2006 04:13:18 GMT

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You might check out the IMSL routines in IDL Analyst - extra bucks for this software, I know, but it might be worth it. For example, IMSL_SP_LUSOL solves a sparse system of linear equations without having to specify the full sparse matrix. IMSL_SP_LUFAC computes an LU factorization of a sparse matrix without having to store the full matrix. The documentation for IDL Analyst is available on the RSI web site someplace.

Dick French

On 12/7/06 8:13 AM, in article

1165497198.963840.266160@l12g2000cwl.googlegroups.com,

"philip.tregenna@psi.ch" <philip.tregenna@psi.ch> wrote:

> I would like to diagonalise a large, sparse, symmetric matrix, and find
> a limited set of eigenvalues. The best way to do this is to use an
> algorithm based upon the Lanczos method. Has a Lanczos diagonalisation
> routine been written in the IDL language? The procedure with a
> functionality close to that which I need is "LA_EIGENQL". However,
> this routine is not ideal for large sparse matrices as it requires as
> input all the elements of the matrix, including those with a value of
> zero.
>
> Regards,
>
> Philip.
>
