

Re: Reported any bugs in C-LAPACK routine DSPEVX?

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Thank you Andreas for your great explanation.

It really surprised me that the steps you explain in your post are exactly the same I have to do to link against CLAPACK, the only difference being the libraries you tell the compiler to link against. Even the underscore you add to the name of the routine is also the same in CLAPACK, and of course the way you pass by reference the arguments is also the way to proceed in CLAPACK. I also like to embed the CLAPACK routines declarations in my programs instead of using the given .h headers (and you're right: in C++ you should embrace this declarations within an extern "C" { } directive)...Now it's not clear to me which is then the difference between linking against CLAPACK or using directly LAPACK, as both ways differs only in the final libraries you link against (¿?).

After all I managed to overcome the initial problem with dspevx_ routine by changing the tolerance parameter. Anyway I would like to take the opportunity to report a non-documented behaviour of this routine: when using dspevx_ and setting ABSTOL parameter to 2*dlamch('s') as recommended by documentation, It may happen that the error code returned by the invocation be zero and the number of eigenvectors computed (parameter M) differs from that you specify in IU IL parameters (documentation does not talk about this possibility). This difficulty may be overcome by setting ABSTOL=0 in those conflictive invocations.

Best regards,

Javi