
Subject: SVDC routine. Is it o.k.?

Posted by [Paul van Delst](#) on Thu, 03 Jul 1997 07:00:00 GMT

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

Hello,

I use the SVDC routine in IDL to perform matrix inversion on rather large square symmetric matrices (100s x 100s). Does anyone know if the IDL version of SVDC (uses the Numerical Recipes algorithm) is bug free? I'm not in any way, form, or manner suggested that it's busted but I'm told there are bugs in the FORTRAN version of this code. A colleague of mine performed some comparisons of NR's SVD decomposition with that from LAPACK. He decomposed a rectangular matrix ($M \times N$; $M \neq N$), reconstructed it and differenced the reconstructed matrix with the original. He found that the LAPACK and NR SVDs gave peak residuals of $1.0e-3 - 1.0e-4$ and $1.0e-1 - 1.0e-4$ respectively. He also noticed that the NR SVD did not always produce singular values in descending order.

Has anyone experienced any problems/worrying results with the IDL version of SVDC? I am also wondering what the dependence on possible problems is if you are decomposing a rectangular matrix as opposed to a square symmetric matrix (that's a question for the sci.math types).

Any information would be appreciated.

Paul van Delst
