Subject: Problem using PCOMP
Posted by Mark McGillion on Sat, 27 Feb 1999 08:00:00 GMT
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Hi all,

I am using PCOMP to compute the principal components and derived variables of a set of power spectral data.

My input matrix has high dimensionality (500,400) as I have 500 points in my power spectra and 400 examples of this spectra. When I call the PCOMP routine, I get an error returned:

```
Program caused arithmetic error: Floating underflow
% TRIQL_NOVEC: Too many iterations in tqli.
% Error occurred at:  EIGENQL
%                PCOMP
%                PCA             91 C:\RSI\IDL51\pca\pca.pro
%                $MAIN$
% Execution halted at:  PCA              91 C:\RSI\IDL51\pca\pca.pro
```

Having looked up the tqli algorithm in Numerical Recipies, I see that the routine exits if the number of iterations within the algorithm reaches 30:

```
if(iter++ = = 30) nrerror("Too many iterations in tqli");
```

Does anybody know of any way to reduce the number of iterations or any other way to get this routine to work without necessarily reducing my data?

Any help would be greatly appreciated.

Mark