Folks,

I've been spending my time the past several weeks learning
the ins and outs of Empirical Orthogonal Function (EOF)
analysis. This is a multivariate statistical technique,
identical to Principal Component analysis, which was
developed in the 1950s by Edward Lorenz, of the famous
"butterfly effect". Dr. Lorenz, a Boulder resident, just
died a week or two ago.

In any case, this is something we do quite a lot around
the shop where I am now working, and I inherited some
code I didn't really understand, so I started to write
my own code, mostly as a way to understand the technique.
The old code typically took hours, and in some cases, days
to run.

But in the course of writing my own, I stumbled onto a
mathematical trick that allowed me to produce identical
results compared to the old way in about four tenths of a
second! Wow! Big breakthrough.

I don't take credit for the trick (I found it in Wilks
outstanding book, Statistical Methods in the Atmospheric
Sciences) and it took about three of us, working together,
to produce the serendipity needed to come to the realization
of what we were doing. But it is definitely worth knowing
about.

So I've written an article that outlines the essential
steps of the process. It is available here:

   http://www.dfanning.com/code_tips/eof_analysis.html

Please let me know if you have any insights to add to this
process. I can't say I know everything there is to know
about this subject, but I am extremely happy with the
code I have to do this now.

Cheers,

David

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Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")