Subject: Re: Algorithm for PCA transform in ENVI
Posted by Kenneth P. Bowman on Wed, 09 May 2012 15:01:54 GMT
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In article <0de35e20-3a9c-4593-8f06-ed3e6461fe60@p21g2000vby.googlegroups.com>,
eva.ivits-wasser@ext.jrc.ec.europa.eu wrote:

> Does anybody know what the algorithm for PCA transform in ENVI is?
> I've compared the eigenvectors and the spatial patterns of ENVI's PCA
> transform with IDL's eigenql, svdc and la_svd procedures. The first PC
> components are the same but from the second component on I have
> negative values where ENVI give positive values and vice versa.
> Accordingly, the first element in the diagonal of the eigenvector
> matrices has the same sign but the rest of the signs are just the
> oppostie comparing results from ENVI and IDL.
> Any clues?
> Thanks in advance,
> Eva

If you have a properly-constructed covariance matrix, the eigenvalues should all
be greater than or equal to zero. If you are getting negative eigenvalues you
are doing something wrong.

http://brunnur.vedur.is/pub/halldor/PICKUP/eof.pdf

Ken Bowman