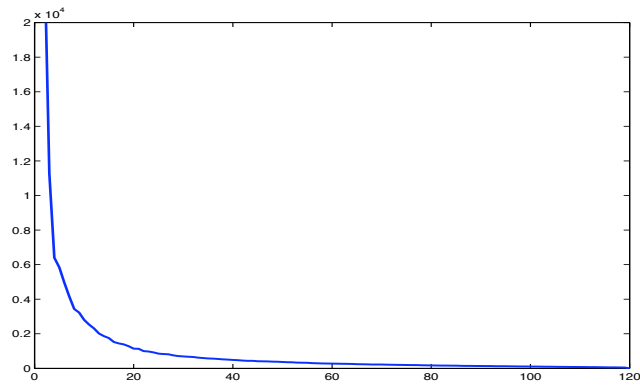
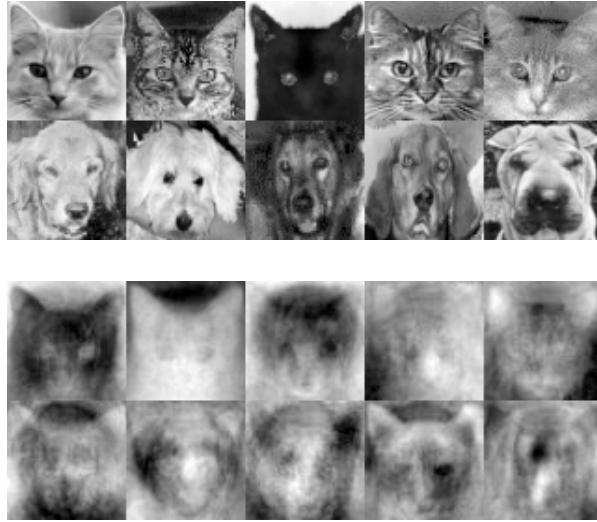
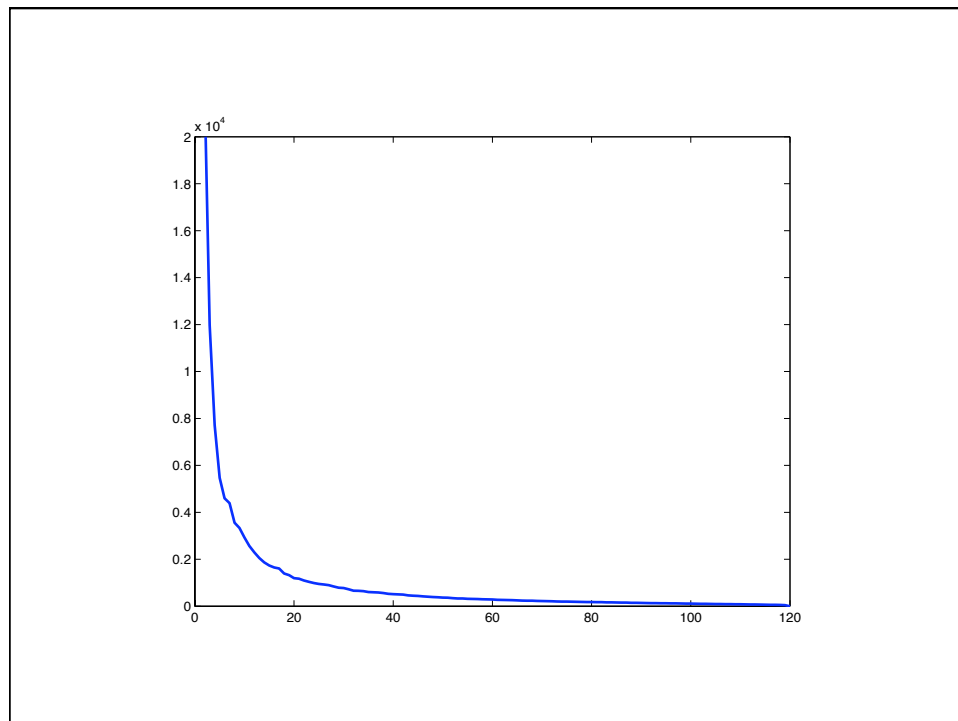
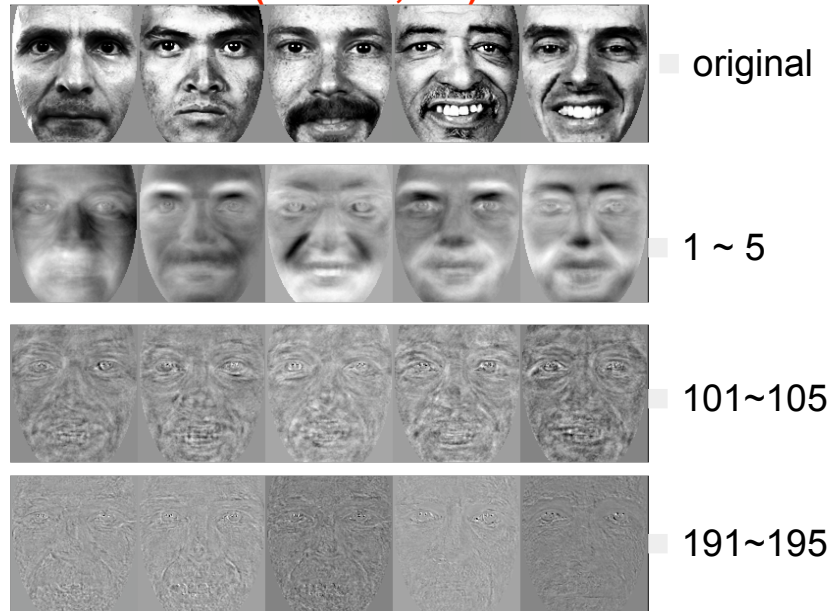


**Cat and Dog faces: black & white 64 by 64 images
(dim=4096)**



**FERET face images; image size is 150 by 130
(dim=19,500)**



Advantages of PCA

- Optimal linear dimensionality reduction technique in the mean-square sense;
- Reduce the curse-of-dimensionality;
- Computational overhead of subsequent processing stages is reduced;
- Noise may be reduced;
- A projection into a subspace of a very low dimensionality, e.g. two dimensions, is useful for visualizing the data.