

## New PCA-based Compression Method for Natural Color Images

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The color information in a natural image can be considered as a highly correlated vector space. This high correlation is the first motivation towards using linear dimensionality reduction methods like principal component analysis for the sake of data compression. In this paper new color image decomposition methods are proposed and compared experimentally. Using a newly proposed gray-scale image colorizing method, a new compression method is proposed for natural color images, that while reducing the spectral redundancy of natural color images, it leaves the spatial redundancy unchanged, to be handled with a specialized spatial-compression method independently, and is proved to be highly efficient.