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Title:	Reconstruction of latetime cosmology using principal component analysis
Authors:	Sharma, Ranbir (/jspui/browse?type=author&value=Sharma%2C+Ranbir) Jassal, H. K. (/jspui/browse?type=author&value=Jassal%2C+H.+K.)
Keywords:	Reconstruction latetime cosmology component analysis
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Abstract:	We reconstruct late-time cosmology using the technique of Principal Component Analysis (PCA). In particular, we focus on the reconstruction of the dark energy equation of state from two different observational data-sets, Supernovae type Ia data, and Hubble parameter data. The analysis is carried out in two different approaches. The first one is a derived approach, where we reconstruct the observable quantity using PCA and subsequently construct the equation of state parameter. The other approach is the direct reconstruction of the equation of state from the data. A combination of PCA algorithm and calculation of correlation coefficients is used as prime tools of reconstruction. We carry out the analysis with simulated data as well as with real data. The derived approach is found to be statistically preferable over the direct approach. The reconstructed equation of state indicates a slowly varying equation of state of dark energy.
Description:	Only IISER Mohali authors are available in the record.
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