



Application of empirical orthogonal filters to GRACE surface mass data

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In this paper we show an update of the EOF filter method applied to the latest version of monthly surface mass thickness grids derived from potential coefficient sets provided by the GRACE science team. We will show updated settings for the EOF filter based on a calibration to the latest data retrieved from the IGS network which provides independent estimates of the loading signal. Residuals that remain after the EOF method do exhibit tidal aliasing errors and continental hydrology signals at periods at periods shorter than 180 days contained in the GLDAS model. Furthermore we find residual EOF alternating track correlation patterns that we compare to a GRACE covariance matrix, and we describe a procedure for extracting co-seismic deformation patterns which require a separate treatment.