



Phase Synchronization of ENSO and Monsoon?

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Phase Reconstruction from empirical time series is a method to investigate for time dependent interrelations between two oscillating systems as phase synchronization or resonance effects. However, climate oscillations are often corrupted by strong short and large scale variations, which render the analysis difficult. We use an approach based on the curvature of a given time series and successfully derive the oscillation phases of ENSO and Monsoon. As a result, we detect different regimes: time intervals of synchronous as well as asynchronous oscillations and intervals of irregular oscillations. We compare these results with possible external forcings which could be responsible for shifts between the different regimes.