

### 3.4 Component 4 : An approximately periodic function with a period of 10.8 years. This function applies until 1643 and from 1716 onwards

This component is assumed to continue to be approximately periodic. The shape of the function is assumed to vary smoothly between periods but will return to the prior. The prior is entirely uncertain about the phase of the periodic function. Consequently the pointwise posterior will appear to lose its periodicity, but this merely reflects the uncertainty in the shape and phase of the function. [This is a placeholder for a description of how quickly the posterior will start to resemble the prior].

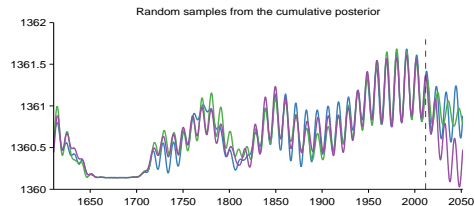
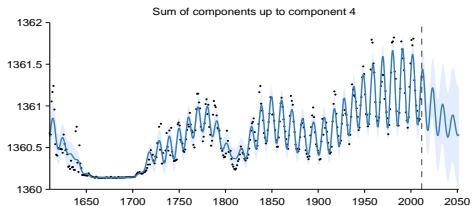
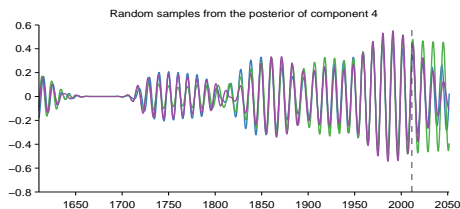
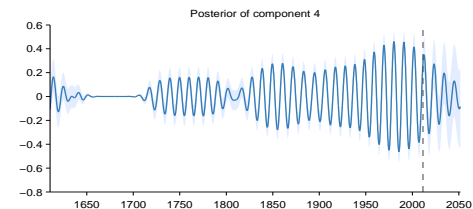


Figure 21: Posterior of component 4 (top) and cumulative sum of components (bottom) with extrapolation. Mean and pointwise variance (left) and three random samples from the posterior distribution (right).