

Abstract: This paper proposes a statistical framework to detect salience and its effects in time series data. We focus on two fundamental dimensions of salience: surprise and prominence and translate them into well-defined stochastic features. Surprise arises from localized and unexpected deviations from regular behavior, while prominence is associated with persistence and long-lasting patterns generated by strong temporal dependence. We show that these dimensions affect the spectral representation of a stationary process by introducing specific features. A general spectral model based on a power transformation of the spectral density allows us to interpret the selection of the power parameter from a weighted Whittle likelihood perspective and to detect salience-driven attention and its implications on expectations. Simulation evidence illustrates how the proposed approach discriminates between non-salient dynamics and salient time series behavior. A real-data application on inflation and consumer survey expectations shows how to identify salience-induced biases in inflation forecasts.