

Gaussian processes models are widely adopted for nonparameteric/semi-parametric modeling. Identifiability issues occur when the mean model contains polynomials with unknown coefficients. Though resulting prediction is unaffected, this leads to poor estimation of the coefficients in the mean model, and thus the estimated mean model loses interpretability. This paper introduces a new Gaussian process model whose stochastic part is orthogonal to the mean part to address this issue. This paper also discusses applications to multi-fidelity simulations using real data examples.

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