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Parameterization of the Gaussian Process for Modelling a Blackbox Function

In this poster we discuss two alternative parameterizations of the Gaussian Process model that are often used in the literature. We begin by discussing the invariance of the two models. We first discuss the lack of invariance and further discuss the lack of a numerical invariance between these two parameterizations. We then discuss the interpretation of parameterizations and show what implications this has in terms of modelling a complex computer code. Additionally we show through a series of examples that one parametrization is typically much better in terms of prediction quality for a set of test data.