

## Evaluation of a Surrogate Based Method for Global Optimization

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**Abstract :** We evaluate the performance of a numerical method for global optimization of expensive functions. The method is using a response surface to guide the search for the global optimum. This metamodel could be based on radial basis functions, kriging, or a combination of different models. We discuss how to set the cycling parameters of the optimization method to get a balance between local and global search. We also discuss the eventual problem with Runge oscillations in the response surface.

**Keywords :** expensive function, infill sampling criterion, kriging, global optimization, response surface, Runge phenomenon

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