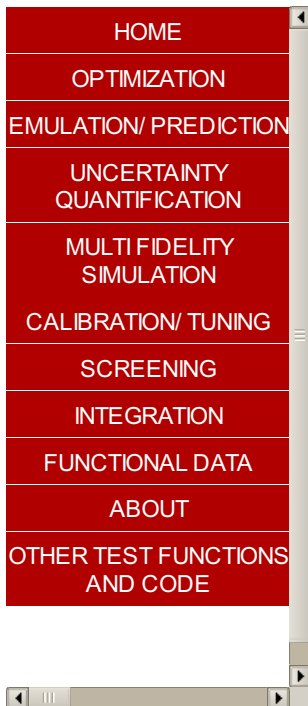


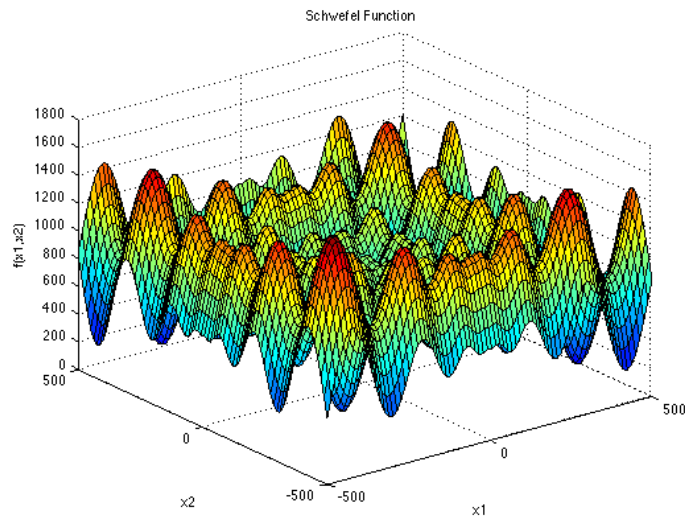
Virtual Library of Simulation Experiments:

Test Functions and Datasets



Optimization Test Problems

SCHWEFEL FUNCTION



$$f(\mathbf{x}) = 418.9829d - \sum_{i=1}^d x_i \sin(\sqrt{|x_i|})$$

Description:

Dimensions: d

The Schwefel function is complex, with many local minima. The plot shows the two-dimensional form of the function.

Input Domain:

The function is usually evaluated on the hypercube $x_i \in [-500, 500]$, for all $i = 1, \dots, d$.

Global Minimum:

$$f(\mathbf{x}^*) = 0, \text{ at } \mathbf{x}^* = (1, \dots, 1)$$

Code:

[MATLAB Implementation](#)

[R Implementation](#)

Reference:

Laguna, M., & Marti, R. Experimental Testing of Advanced Scatter Search Designs for Global Optimization of Multimodal Functions (2002). Retrieved June 2013, from <http://www.uv.es/rmarti/paper/docs/global1.pdf>.

For questions or comments, please email Derek Bingham at: dbingham@stat.sfu.ca.