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Prof. Dr.-Ing. Alexander Fidlin
Prof. Dr.-Ing. Carsten Proppe
Prof. Dr.-Ing. Wolfgang Seemann

Kolloquium für Mechanik

Referee:	**Associate Professor Jean-Marc Bourinet** SIGMA Clermont, France
Date:	Thursday, May 24, 2018
Time:	15:45 h
Location:	Bldg. 10.81, Emil Mosonyi-Hörsaal (HS 62, R 153)
Title:	**Adaptive support vector regression for reliability analysis**

Abstract

The talk is about surrogate models applied to the estimation of rare event probabilities. In this context, support vector regressors (SVR) are adaptively constructed as surrogates of costly-to-evaluate functions. The following important aspects are addressed in the talk: choice of kernel type (isotropic vs. anisotropic), tuning of SVR hyperparameters, selection criteria for enriching the training set of data.

The efficiency and robustness of the proposed adaptive method are assessed from a set of challenging examples with a comparison to published results obtained by other methods.

During this talk, I will also mention the broader scope of kernel-based function approximation, with a comparison between Gaussian process predictors (a.k.a. kriging) and support vector machines.

Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Carsten Proppe