

TRACTABILITY OF ANALYTIC MULTIVARIATE PROBLEMS

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For analytic multivariate problems we modify the usual concepts of tractability by replacing the pair (d, ε) by $(d, 1 + \log \varepsilon^{-1})$, where d denotes the number of variables and ε is an error threshold. It turns out that for some analytic multivariate problems we can get positive tractability results for this more demanding setting. We survey current results for multivariate integration and approximation defined over reproducing kernel Hilbert spaces. These results were obtained by J. Dick, G. Larcher, P. Kritzer, F. Kuo, F. Pillichshammer, I. Sloan, and the author.