

# Optimal Monte Carlo and Quantum Algorithms for Parametric Integration

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In our talk we summarize the development of the last three years in the topic of parametric integration. We present matching upper and lower bounds for different function classes and different settings. For Sobolev spaces we complete earlier results of Heinrich in the Monte Carlo setting. In the quantum setting we show matching upper and lower bounds for sufficiently smooth functions. Finally we explain the main ideas to achieve the results and discuss some open problems for the remaining cases in the quantum setting.