

# Bayesian Optimization for QAOA

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We present a Bayesian optimization procedure to fulfil this optimization task of the QAOA algorithm, and we investigate its performance in comparison with other global optimizers. Our approach allows for a significant reduction in the number of calls to the quantum circuit, which is typically the most expensive part. We demonstrate that our method works well also in the regime of slow circuit repetition rates, and that few measurements of the quantum ansatz would already suffice to achieve a good estimate of the energy.

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