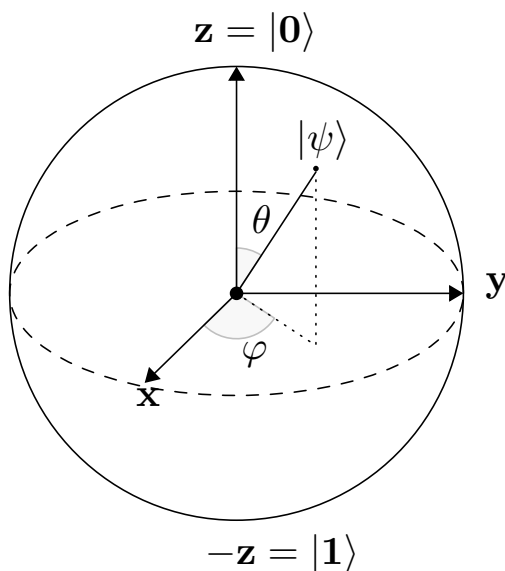


# (Adiabatic) Quantum Computation for Industrial Applications



## Problem description

Quantum computing is performed in two separate but *equivalent* domains, the circuit model and the adiabatic models. However, the intersection of *current applications* for both technology is fairly low, e.g. adiabatic quantum computing is used to solve optimization problems, the circuit model is considered in the field of cryptography as the *main* threat model. In particular, the current technology level of adiabatic computers may not allow for application as universal quantum machines.

This work starts with comparing the two models of computation and identifying applications and limitations of both approaches. Further down the line one may compare the resources required for exact quantum algorithms and their classical counterparts. Another approach would be the comparison to classical approximations which yield *good* but not exact results.

## Keywords

quantum, algorithms, approximations

## Remarks

Prior knowledge of quantum computing and (industrial) algorithms is recommended.

## Point of contact

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