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**Title in English**

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## **Abstract**

Here an abstract will show up in some months to follow.

## **Keywords**

quantum annealing, D-Wave

## **Thesis domain (Socrates-Erasmus subject area codes)**

11.3 Informatyka

## **Subject classification**

D. Software

D.127. Blabalgorithms

D.127.6. Numerical blabalysis

## **Tytuł pracy w języku polskim**

Tytuł po polsku



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# Introduction





# Chapter 1

## Current state of Quantum Computing

### 1.1. Gate model

Some text about the gate model computers

#### 1.1.1. Error correction

Some for subsection of error correction

### 1.2. Problems of practical QC - NISQ

Some text about NISQ

### 1.3. Quantum Annealing

Quantum annealing has some interesting properties. It is analog in nature and because the computation happens in a ground state it is unaffected by decoherence [2].



## Chapter 2

# What actually is Quantum Annealing

2.1. Thermal Annealing

2.2. Simulated Annealing

2.3. Quantum Annealing



## Chapter 3

### The problem



## Chapter 4

# Practical realization of The problem





## Chapter 5

## Conclusions and remarks



## Chapter 6

# Scratchbook

Ocean toolkit is the software suite currently used by DWave to solve computational problems. It consists of various submodules, each aimed at different stage of the process. The toolkit is freely available on Github [1].



# Bibliography

- [1] D-Wave Systems Inc.
- [2] Catherine C. McGeoch. *Adiabatic quantum computation and quantum annealing: Theory and practice*, volume 5. Morgan & Claypool Publishers, 2014.