

Factoring 15 using NMR

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Abstract

A Number can be separated into its Prime Factors efficiently by using the Shor-Algorithm. In 2001 it was the first time implemented using Nuclear Magnetic Resonance (NMR). Vandersypen et al. (2001) showed the factorization of 15 using a compiled algorithm.

Based on the theory of the Shor algorithm we present the experimental system used to run this algorithm and its result (5 and 3). The group demonstrated the possibility to implement a complex algorithm in a quantum computer.

Similiar experiments have been redone by various groups using photonic systems (Politi et al., 2009) and superconducting circuits (Lucero et al., 2012).

References

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