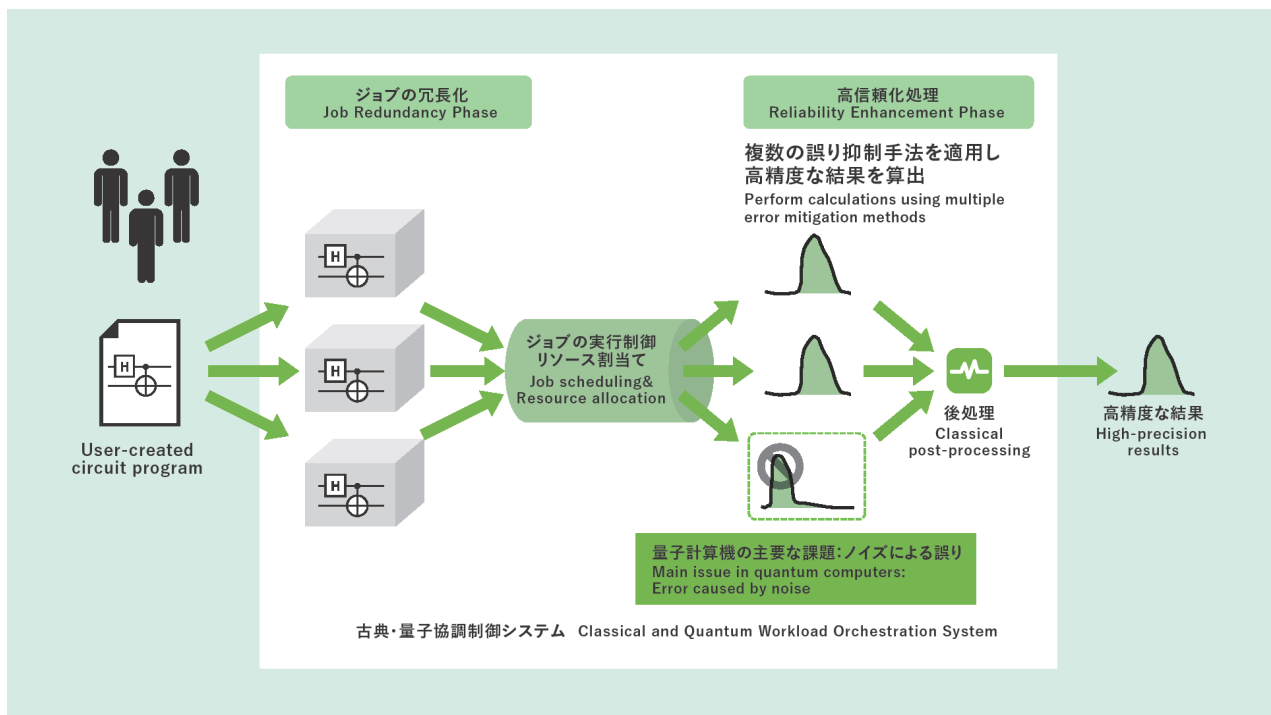


Speeding up the development of quantum computers with error mitigation Reliable optical quantum computer system

Background and Technical Challenges

Quantum computers offer promise for industrial applications. However, noise induces errors in computations. Many quantum-error-mitigation methods exist, but their effectiveness varies, making it hard to select the best one.



R&D Goals and Outcomes

To develop techniques to select accurate quantum-error-mitigation methods, enhancing reliability for quantum computing

Key Technologies

01 Core Technologies

Applying the concept of N-version programming, commonly used in software engineering, to select a quantum-error-mitigation method with high accuracy.

02 Key Differentiators

Many quantum-error-mitigation methods exist, but accuracy can vary over $5 \times$ across use cases. We developed the world's first technique for selecting high accuracy quantum-error-mitigation methods.

Use Cases Multi-Industry
(Manufacturing & Information Technology)

R&D phase Research

Technology Schedule After FY30

Commercialization Schedule After FY30

【Exhibitors】

NTT Computer and Data Science Laboratories

【Contact】

Innovative Computing Architecture Laboratory

【Co-exhibitors】

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