

MicroTCA Control System for Neutral Atom Quantum Computing

Wednesday, 2 December 2020 17:40 (15 minutes)

Atom Computing venture-backed startup in Berkeley, California that is building a quantum computer based on optically-trapped neutral atoms. Inspired by particle accelerator control systems developed for high energy physics, we have selected MicroTCA 4 as the basis for the electronic control system that prepares, manipulates, and reads out qubit states that are the basis of quantum computations. This presentation will detail the rationale behind Atom Computing's choice of MTCA and summarize the custom AMC and RTM module development efforts that underway to specifically address the requirements of neutral atom quantum computing applications.

Summary

This presentation will cover a novel industrial application of MicroTCA 4– a control system for a neutral atom quantum computer.

Primary author: COXE, Robin (Atom Computing Inc.)

Presenter: COXE, Robin (Atom Computing Inc.)

Session Classification: Session 6

Track Classification: Applications in research facilities