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Introduction to Quantum Brilliance and its R&D programs

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Abstract

Quantum Brilliance is an Australian-German company developing room-temperature quantum computers based upon diamond. Quantum Brilliance is distinguished by its distinct and complementary vision of ‘quantum accelerators’. Being quantum computers that are the same size as today’s GPUs and CPUs, which are deeply integrated with classical computers to accelerate applications across the spectrum of edge computing (e.g. in satellites and autonomous vehicles) to centralised supercomputing (e.g. as massively parallelised clusters). Indeed, Quantum Brilliance has already constructed a prototype quantum computer and integrated it into the Pawsey Supercomputing Centre in Australia. Alongside this premier hardware product, Quantum Brilliance is working with partners (e.g. NVIDIA) to drive the development of the software frameworks, languages and libraries required to employ quantum computers as accelerators in hybrid computing.

In this talk, I will briefly introduce Quantum Brilliance before outlining its research and development programs.