Dyakonov

Will We Ever Have a Quantum Computer?

This book addresses a broad community of physicists, engineers, computer scientists and industry professionals, as well as the general public, who are aware of the unprecedented media hype surrounding the supposedly imminent new era of quantum computing. The central argument of this book is that the feasibility of quantum computing in the physical world is extremely doubtful. The hypothetical quantum computer is not simply a quantum variant of the conventional digital computer, but rather a quantum extension of a classical *analog* computer operating with continuous parameters. In order to have a useful machine, the number of continuous parameters to control would have to be of such an astronomically large magnitude as to render the endeavor virtually infeasible. This viewpoint is based on the author's expert understanding of the gargantuan challenges that would have to be overcome to ever make quantum computing a reality. Knowledge of secondary-school-level physics and math will be sufficient for understanding most of the text.

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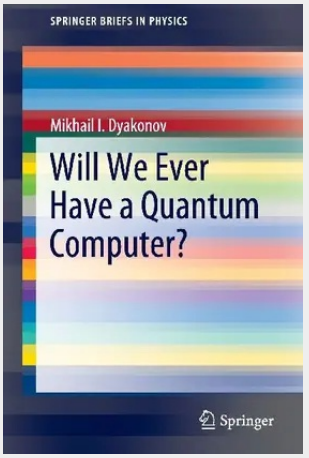

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