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The Foundations and Results of Parallel Computing in Terms of Gaisi Takeutis' Quantum Set Theory

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Abstract

The foundations and results of parallel computing in terms of Gaisi Takeutis' quantum set theory are presented in this talk. This approach is based on

- The extension of the von Neumann's uniqueness theorem for the solutions of the canonical commutations relations in quantum mechanics of finitely many degrees of freedom to quantum local field theories of infinitely many degrees of freedom;
- The results of the mathematician Gaisi Takeuti about quantum set theory in extension theory; and
- The results of the physicist Lev Davidovics Landau about the behavior of the quantum liquids He3 and He4 resulting in a more general approach than the one based on the notion of the quantum bit.