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Quantum Technologies for New-physics Searches

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The extraordinary advances in quantum control of matter and light have been transformative for precision measurements enabling probes of the most basic laws of Nature to gain a fundamental understanding of the physical Universe. Exceptional versatility, inventiveness, and rapid development of precision experiments supported by continuous technological advances and improved atomic and molecular theory led to rapid development of many avenues to explore new physics. I will give an overview of atomic and molecular physics searches for physics beyond the standard model and then focus on dark matter searches with atomic and nuclear clocks.

Presenter: SAFRONOVA, Marianna

Session Classification: Quantum algorithms and technologies