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Ultrastable Lasers –New Developments and Challenges

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Lasers with long coherence time and narrow linewidth are an essential tool for quantum sensors and clocks. We will report on the progress using low thermal noise crystalline mirror coatings with cryogenic silicon cavities, discuss alternatives for improving the stability, and give an outlook for more reliable, maintenance free and robust cryogenic silicon cavity setups that will enable also transportable optical clocks to benefit from their performance.

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