



ALKALI METAL OPTICAL CLOCK

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The Invention

UW researchers have invented a Cesium Lattice Optical Clock (CLOC) for high performance and simple operation in a compact form factor. The novel design uses a “forbidden” optical transition in Cs atoms. Cs atoms are trapped in a 3D optical lattice. To reduce sensitivity to magnetic fields, the atoms are probed on two cycling transitions with equal magnitude, but opposite magnetic shifts. Operation of the clock uses only two - three diode lasers and is greatly simplified compared to other higher-performance optical clocks that rely on alkaline earth atoms or single trapped ions.

Additional Information

For More Information About the Inventors

- [Mark Saffman](#)
- [Shimon Kolkowitz](#)

Tech Fields

- [Analytical Instrumentation, Methods & Materials : Sensors](#)
- [Semiconductors & Integrated Circuits : Quantum dot technologies](#)

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