

Qubits for Clocks, Magnetic Sensors and Interferometers

R FOLMAN¹ AND ATOM CHIP GROUP¹

¹*Physics, Ben-Gurion University of the Negev, POBox 653, Be'er Sheva, Israel. Contact Phone: +972528795761
Contact Email: folman@bgu.ac.il*

In this talk I will briefly review our work with atomic qubits in the fields of clocks [1], magnetic sensing [2-4] and interferometry [5-10], with Cs, Rb, K, Yb and NVs, for both fundamental science and quantum technology. I will mainly focus on two recent works in metrology, the first on clock interferometry [11] and the second on point-source interferometry. Time permitting, I will also briefly mention several recent works on unique qubit decoherence channels connected to a new kind of quantum system for fundamental science and metrology, massive objects [12-14].

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