

## Fluctuations on the atom chip

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### **Presentation type: Invited Speaker**

In this presentation we will describe several forms of fluctuations on the atom chip. We will start with the effect of technical fluctuations from different sources, as well as Johnson noise arising from the surface of the chip. We will describe how they are measured and ways to address these hindering effects. We will also describe how imprecision which may be thought of as a stable yet unavoidable fluctuation limits the fidelity of quantum operations. Finally, we will also touch upon how the special features of the atom chip may be used to measure thermodynamic properties.