

Relativistic enhancement of quantum optical metrology

In this poster I will explore the applications of relativistic quantum information theory to metrology. By considering the relativistic effects on the transition probability of atoms moving through the optical cavities, we will characterize the perturbations of the general trajectories of an atom. Moreover, since the atom's transition rate depends on how the detector enters the cavity, we will show how this feature can be used as a test to measure the alignment of a cavity.