

Abstract Submitted
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Ion Interferometry¹ CHRISTOPHER J. ERICKSON, MARY LYON, AARON BENNETT, DAYLIN TROXEL, Brigham Young University, KELVIN J. BLASER, Brigham Young University - Idaho, STUART HARPER, DALLIN S. DURFEE, Brigham Young University — We report on the progress of an ion interferometer based on a laser-cooled $^{87}\text{Sr}^+$ beam which will be split and recombined using stimulated Raman transitions. This device will be used to implement an extremely precise electromagnetic field sensor. Design considerations and instrumentation development will be discussed. Possible practical and fundamental applications, including deviations from Coulomb's inverse-square law and the search for a possible photon rest mass, will be discussed.

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