

Abstract Submitted  
for the DAMOP11 Meeting of  
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**Do Photons Have Rest Mass? Probably Not, But...**<sup>1</sup> DALLIN DURFEE, CHRISTOPHER ERICKSON, JAMES ARCHIBALD, Brigham Young University — I will discuss the possibility of setting new laboratory-based limits on the rest mass of the photon and deviations from Coulomb's inverse-square law. Consequences of a non-zero photon rest mass will be discussed, and the Proca theory of massive photons will be applied to a potential ion interferometer experiment. The results show that, given reasonable experimental parameters, a table-top experiment could result in improvements on laboratory-based limits by two orders of magnitude.

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