

Abstract Submitted
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Atomic masses of the alkalis, oxygen isotopes, and the dipole of a triatomic ion¹ BRIANNA MOUNT, MATTHEW REDSHAW, EDMUND MYERS, Florida State University — By measuring cyclotron frequency ratios of multiply charged ions simultaneously trapped in a Penning trap we have obtained improved atomic masses for ^{39,41}K, ^{85,87}Rb and ¹³³Cs. Our results for Rb and Cs have application to ongoing measurements of $h/m(\text{alkali})$ for the finestructure constant. We have also measured the masses of ^{17,18}O, with application to an isotope-independent global fit of precision ro-vibrational molecular spectroscopic data of carbon monoxide [1]. By measuring cyclotron frequency shifts due to polarizability, we have also measured the dipole moment of the triatomic molecular ion HCO⁺. [1] H.S.P Mueller, et al., unpublished.

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