

Abstract Submitted  
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**Improved performance of the  $^{129}\text{Xe}/^3\text{He}$  Zeeman maser** ALEX GLENDAY, FEDERICO CANE, MATTHEW ROSEN, DAVID PHILLIPS, RONALD WALSWORTH, Harvard-Smithsonian — We report recent improved performance of the  $^{129}\text{Xe}/^3\text{He}$  Zeeman maser, which enables a more sensitive measurement constraining Lorentz and CPT and violation. Improved temperature and mechanical stability of the maser as well as signal optimization have led to an order of magnitude improvement in frequency noise and stability. Experimental investigations of Lorentz and CPT symmetry provide important tests of the framework of the standard model of particle physics and theories of gravity.

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