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Bound on Lorentz and CPT violations with the dual noble gas maser ALEX GLENDAY, FEDERICO CANE, MATTHEW ROSEN, DAVID PHILLIPS, RONALD WALSWORTH, Harvard-Smithsonian — We report recent measurements constraining CPT and Lorentz violation using the ^{129}Xe/^{3}He Zeeman maser and the current status of the maser. Experimental investigations of CPT and Lorentz symmetry provide important tests of the framework of the standard model of particle physics and theories of gravity. The two-species ^{129}Xe/^{3}He Zeeman maser sets stringent limit on rotation- and boost-dependent Lorentz and CPT violation involving the neutron, consistent respectively with no effect at the level of 10^{-31} GeV and 10^{-27} GeV. These results will be presented, along with a description of ongoing efforts to improve the masers' frequency stability.

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