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Sensitivity comparisons of Rydberg sensors and classical antenna at radio frequencies ZACHARY CASTILLO, University of Maryland, DAVID MEYER, FREDRIK FATEMI, KEVIN COX, PAUL KUNZ, U.S. Army Research Laboratory — We compare a Rydberg-atom electric field sensor to classical antennas with particular focus on sensitivity. The two systems sensitivities differ over practical frequency ranges from 10 kHz to 100 GHz due to basic physics considerations. Additionally, we show results from our second generation experiment, aimed at record-level electric field sensitivity and extreme wideband operation.

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