

Abstract Submitted  
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**Rydberg-atom-based electric field sensing: continuous-frequency measurements of high-intensity microwave electric fields**<sup>1</sup> DAVID ANDERSON, Rydberg Technologies LLC, GEORG RAITHEL, University of Michigan, Rydberg Technologies LLC, ERIC PARADIS, Eastern Michigan University, Rydberg Technologies LLC, MATTHEW SIMONS, CHRISTOPHER HOLLOWAY, National Institute of Standards and Technology — In this talk I will describe recent work employing Rydberg electromagnetically induced transparency in atomic vapors for atom-based electric field measurements and sensing. This will focus on the demonstration of high-intensity microwave electric-field measurements exceeding 1 kV/m and strong-field measurement capability over a continuous microwave frequency range in the  $K_a$ -band, up to  $\pm 1$  GHz detuned from the next relevant atomic transition (15% band coverage). Time permitting, developments towards improved measurement sensitivity of weak fields, polarization-selectivity, as well as DC-field measurement applications will also be discussed.

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