Abstract Submitted
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Exploring the Vacuum with High Intensity Lasers DANIEL TENNANT, University of Texas at Austin — Strong field processes in Quantum Electrodynamics are believed to cause polarization and even breakdown of the vacuum in the presence of fields strengths soon to be accessible in high intensity laser experiments. Less explored consequences of strong field electrodynamics include effects from Born Infeld type of electromagnetic theories. I propose that Four Wave Mixing, a nonlinear optical effect, can differentiate between these two extensions of Maxwell's electrodynamics.

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