

## ABSTRACT

### SCATTERING OF LIGHT IN BORN-INFELD ELECTRODYNAMICS

I will show some novel features of Born-Infeld electrodynamics. It has been shown that in the context of nonlinear electrodynamics that the concept of the vacuum as an independent noninteracting background has to be abandoned and replaced by a medium with nontrivial electric susceptibility and magnetic permeability. In particular, I will calculate the index of refraction of the vacuum in the presence of, a constant magnetic field, and a magnetic dipole field. My main result will be to show that spatially varying electromagnetic fields will cause a deflection in the trajectory of electromagnetic radiation passing through a region where the strength of these fields are significant.

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