

We review the pure electromagnetic sector of the SME, the extension of the standard model that includes all the Lorentz Invariance Violation (LIV) terms. We compute the light birefringent in the vacuum of the theory at the leading and sub-leading orders. Focusing on models free of the first order birefringent beside using infrared, optical, and ultraviolet spectropolarimetry of various cosmological sources we then constraint the parity LIV parameters to less than 10^{-16} . This improves the best current bound by two orders of magnitude. We also introduce a triangular Fabry-Perot resonator implementing which in the current cavity resonator experiments further improves our results with one order of magnitude