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Sergey I Kryuchkov, Nathan A Lanfear* (nlanfear@asu.edu) and **Sergei K Suslov**. *The Pauli-Lubanski Vector, Complex Electrodynamics, and Photon Helicity*.

We critically analyze the concept of photon helicity and its connection with the Pauli-Lubanski vector from the viewpoint of the complex electromagnetic field, $\mathbf{E} + i\mathbf{H}$; sometimes attributed to Riemann but studied by Weber, Silberstein, and Minkowski. To this end, a complex covariant form of Maxwell's equations is used. (Received September 22, 2015)