

Nonlinear electrodynamics, introduced in the 1930s to remedy divergences associated with Maxwell's theory, has become a recurring theme in theoretical physics. Recent developments in the area of nonlinear electrodynamics coupled to gravity have prompted the creation of an accessible ground up reformulation of the basic structure. We develop the formalism by building upon classical electromagnetism in Minkowski spacetime, deriving the fundamental equations by the action principle before re-deriving the Lagrangians of two important models from the founding era and describing the corresponding regular static spherically symmetric solutions. The focus is then shifted to the examination of a recently discovered model through which we develop a basic background for the coupling of nonlinear electrodynamics to gravity and AdS black hole thermodynamics.