

# Bosonization and Iterative Relations Beyond Field Theories

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## Abstract

Solitons can be well described by the Lagrange formalism of effective field theories. But usually mass and coupling constants constitute phenomenological dimensions without any relation to the topological processes. This paper starts with a two-spinor Dirac equation in radial symmetry including vector Coulomb and scalar Lorentz potentials, and arrives after bosonization at the sine-Gordon equation. The keys of non-perturbative bosonization are in this case topological phase gradients (topological currents) that can be balanced in iterative processes providing for coupling constants driven by phase averaging and "noise reduction" in closed-loops and autparametric resonance. A fundamental iterative spin-parity-asymmetry and dimensional shift quite near to the electron to proton mass ratio is found that can only be balanced by bosonization including Coulomb interaction.

**Keywords:** proton, electron, asymmetry, auto-renormalization, auto-parametric, parity resonance, modes, nonabelian, nonlinear, non-pertubative, breather, nonpertubative, pseudosphere, phase, berry, Gordon, sine-Gordon, Baecklund, Thirring, Rayleigh, fine structure, iteration, iterative, exact

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