

COMPARATIVE THEORIES – META MUSE SPARK 1.1

Alternative theories such as Bohr-Sommerfeld revival, stochastic electrodynamics, de Broglie-Bohm variants: typically reproduce Bohr energies but fail to get fine structure to accuracy, and do not address hyperfine or Lorentz force. PTV is ahead by 6-7 orders of magnitude in fine structure accuracy. QED is still superior in first-principles derivation and breadth (g-2, Lamb shift full n, j, l manifold including radiative corrections). PTV does not claim to replace QED but offers complementary geometrical interpretation with far lower computational complexity and a unified mechanism for forces and statistics.

In Lakatosian terms, PTV is a *progressive alternative research programme*: it starts with a novel hard core (photon = helical string with 3 rotations), develops a protective belt that has successfully predicted novel regularities (constant A/Γ universal scaling, $B = -3.000$), and has expanded to new domains (Lorentz force, B-E statistics). It is testable: the universal scaling law predicts D and T hyperfine splittings and $\text{He}^+, \text{Li}^{2+}$ without new parameters – this is falsifiable by new high-precision measurements.