

Natural Field: A link missing in Contemporary Physics

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Abstract

Natural Field is a recently found new fundamental entity of nature in addition to existing four fundamentals, namely, ***Gravitation, Coulomb, Strong and Weak forces***. It distinctly distinguishes itself from existing four in its ability of causing self-interference.

Finding of Natural Field came as the outcome of two observations made on shortcomings of Contemporary Physics. The first one is the incorrectness of de Broglie's wave particle duality (WPD), and the second one is a set of repeated experimental evidence for which Contemporary Physics offers no explanation. Natural Field offers explanation for this set.

It is postulated that a matter particle, by virtue of its inertial mass, is always surrounded by a Natural Field that follows from a set of dynamical equations. An important characteristic of Natural Field, which follows from dynamical equations, is its ability of inducing itself on to others upon impact. The notion of Natural Field is easily extended from matter to light simply by replacing particle inertial energy with photonic energy of light.

Postulate of Natural Field along with related theoretic analyses is supported by five independent set of repeated experimental results, namely, electron diffraction, reflection & refraction of light, splitting of light ray at a refracting surface without alteration in photonic frequency, double-slit interference pattern with photon passing through one slit at a time and not both slits simultaneously, and Braggs' X-ray diffraction as well.

Natural Field exhibits characteristics common to both light and matter particle. It provides a unification of matter and light.

Biography

Debabrata Saha is a research scientist who recently completed a teaching assignment in NIT, Karnataka, India as an Adjunct Professor. Before this, he taught for twenty-one years as tenured member of a faculty, and, thereafter, worked as President of a consulting firm, both in USA. He is a former Chairman of Washington D.C. – Northern Virginia Section of IEEE Information Theory Society, USA.

His academic background includes earned degrees in (1) **Science** – B.Sc., Physics (Calcutta University), (2) **Technology** – B.Tech., Electronics (Calcutta University), (3) **Applied Science** – M.A.Sc., Communication (University of Toronto), (4) **Engineering** – PhD, Computer, Information and Control Engineering (University of Michigan).

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