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Natural field: A new fundamental entity of nature

Natural field is a recently found new fundamental entity of nature. It particularly distinguishes itself from existing four fundamentals, namely, gravitation, coulomb, strong and weak forces in its ability of causing self-interference. It is established that de Broglie's wave particle duality is incorrect and wave associated with any moving particle is non-existent. In addition, contemporary Physics falls short of accounting for a set of repeated experimental evidence. This set that remains unexplained lies in, (a) our inability of last two thousand years in deriving the law of reflection of light starting from the root cause, (b) the problem associated with splitting of light ray at a refracting surface where light ray divides, but light quanta cannot divide without an alteration in frequency, (c) failure of wave theory of light in explaining double-slit interference pattern, observed in recent decade, with photons passing through one slit at a time and not both slits simultaneously, and (d) lack of explanation for Davisson-Germer's electron diffraction after the realization that de Broglie wave is non-existent. Natural field is found in a search for mitigating these shortcomings of contemporary physics. Postulate of natural field along with related theoretic analyses is supported by five independent set of repeated experimental results, namely, electron diffraction, reflection and refraction of light, splitting of light ray at a refracting surface, double-slit interference pattern with single photon, and Bragg's X-ray diffraction as well. Natural field exhibits characteristics common to both light and matter particles. 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 21 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 degrees in Science- BSc, Physics (Calcutta University), Technology - BTech, Electronics (Calcutta University), Applied Science - MASc, Communication (University of Toronto), and Engineering - PhD, Computer, Information and Control Engineering (University of Michigan).

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