



Electric and non-electric charges and their inter-conversion

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Abstract

The constituent of matter at any stage and in any domain being only mass and space and charge being a state property of matter, different varieties of charges (electric charge, photonic charge and celestial charge) can be unified. Basically charge appears in a matter coexisting with other matters when the said matter has a different proportion of its constituents (mass and space) where other matters in the local environment maintain a uniform proportion of mass and space. The strength and range of charge interaction of different category of charges appearing in matters of different domains is purely a function of dimension hence a function of geometry. When micro particles carrying electric charge becomes a constituent of macro celestial body they assume the dimension of the celestial body and the collective external interaction of micro charge particles follow the geometry of macro celestial body thereby converts to celestial charge. Similarly light particles carrying photonic charge when absorbed in a micro particle interacts externally follows the geometry of micro particle thereby photonic charge converts to electric charge.

Key words: *Electric charge, Non-electric charge, Charge interaction, Charge conversion, Charge of photon, Charge of planet, Charge of Sun.*

Discussion

Matter exists in many domains [1] and matter in every domain is a mass-space integral system. If matters of one domain in a locality possess mass proportionate space holding they are neutral to one another. The relative charge potential of neutral matters with respect to the potential of the locality is zero. But each matter in the locality has absolute charge potential for its mass content per unit of space holding. Pure space without mass has zero absolute potential. However existence of pure space is hypothetical case. If the space holding per unit of mass in a matter is less than the equilibrium space holding in a locality then said matter carries positive charge. On the other hand if the space holding per unit of mass in a matter is more than the equilibrium space holding in a locality then said matter carries negative charge. This phenomenon applies equally to matters carrying non-electric charges. However, the strength and range of interaction of non-electric charges differs from electric charges. Hence the charges in matters of different domains are of different category. Charge possessed in micro particles is known as electric charge. The author designates the non-electric



charges as photonic charge for light particles and celestial charge for celestial bodies. At present we understand only the electric charge and carry a notion, no other charge exists in nature. Some scientists anticipated presence of fractional electronic charge in light particles (Photon). They examined interaction of light particles in a strong electric field but when the light particles did not deflect in electric field they concluded that light particles are neutral particles. The right conclusion of the experiment would have been that light particles do not carry electric charge. How can one say the light particles are neutral particles without examining for other forms of charges? The author has shown elsewhere that light particles have mass in photonic mass units even if its mass in atomic mass units is zero. Again light particles can have photonic charge in non-equilibrium state of mass-space association. The author has explained different phenomena of light by considering light particles having mass and photonic charge without the help of wave concept [2].

In the new concept, any class of charge in any domain is a function of non-equilibrium state of mass-space association relative to the local surrounding. A mass rich particle/body having more mass per unit of space holding than that of neutral matter carry positive charge in a relative scale. A space rich particle/body having more space holding per unit of mass than that of neutral matter carry negative charge. From here onwards we will use the narration, a mass rich particle/body carry positive charge and space rich particle/body carry negative to abridge the correct statement stated above. Thus a mass rich micro particle carries positive electric charge and a space rich micro particle carries negative electric charge. Likewise a mass rich light particle (photon) carries positive photonic charge and a space rich light particle (photon) carries negative photonic charge. Again a mass rich celestial body carries positive celestial charge and a space rich celestial body carries negative celestial charge. The following paragraph explains how matter carrying one category of charge (say, celestial charge) is influenced by releasing or absorbing particles carrying other category of charges (electric charge and photonic charge).

How absorption of mass rich photons on a celestial body changes the celestial charge state of the body?

The sun-facing side of the earth receives sunlight which is mass rich photons. By absorbing mass-rich solar photons the surface matters of the earth becomes mass rich thereby the sun facing side of earth becomes positively charged with celestial charge. On the other hand the far side of the earth does not receive solar radiation (mass rich photons) but receives the space rich photons (Cosmic Microwave Background radiation). By absorbing space rich background radiation the surface of the earth on far side becomes negatively charged with celestial charge. The phenomenon described for the earth applies to all planets of the sun. Hence it is necessary to include the celestial



charge interaction along with gravity for the dynamics of solar system. Unlike the short range interaction of electric charge the celestial charge interaction is a long range interaction. Hence gravitational interaction and celestial charge interaction can be clubbed. The clubbed centripetal force can be justified from gravity alone particularly when the celestial charge is not known. However many aspects of celestial dynamics which remains unnoticed can be identified analysed from the new concept of charge.

We know the sun also releases charge particles (ions and electrons) which is known as solar wind. The solar wind interacts with earth's magnetic field and the electrons are guided by earth's magnetic field and make field aligned current to reach the polar region and positive ions and protons forms a proton belt at high altitude. The earth and its extra-nuclear structure form one integral system, hence accumulation of electric charge particles within the terrestrial system modifies the celestial charge state of terrestrial system which has a say on the dynamics of solar system.

The earth comprises atomic particles and photonic particles (in the new concept). Therefore electric charge interaction and photonic charge interaction is feasible within earth but externally the celestial charge interaction is feasible. Similarly the nucleus of atom interacts externally with electric charge, but internally only the photonic charge activity is feasible. The atomic nucleus radiates micro photons which are one domain down the domain of photon. They too have in micro photonic mass units therefore can have both positive and negative micro photonic charge. Photons and micro photons carrying respective charges when absorbed in electric charge bearing particles can change the electric charge state of micro particle.

Conclusion

Identification of different varieties of charges and conversion of one variety of charge to another when the constituent charge particles of one domain form a constituted structural body in larger domain is a big asset for understanding the dynamics of solar system, and functional property of micro particles in characterizing macro properties of matter. This has scope to understand how background radiation influences the conscious mind to sense invisible objects & events which ordinarily are not observable. Thus the new knowledge helps remove the barrier between material science and spiritual science.

Reference

1. <https://philosophyofnature.org.in/different-domains-of-nature>
2. New particle theory of light removes duality (Page-227), Dynamics of Universe interplay of matter, space and charge, vol.3. Published by Gyanajuga Publication, 2012.