the general science journal

Quasiworld from quasiparticles

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***Abstract**: The particles and quasiparticles are very close in theories. However, the difference between them must be obtained from experiments and not from these theories.*

***Keywords**: elementary particle, quasiparticle*

The concept of quasiparticles is often used to describe our reality. Nevertheless, it does not mean that it improves our understanding of reality. This description should be a temporary picture (e.g. complex numbers) that simplifies equations and it should not be the final knowledge and interpretation (that must be described in real numbers).
The Standard Model of particles is a "physical" theory that is based on numbers (angles) [1] and mathematical symmetries. The particles included in this model are called as "elementary" particles. However, the experimental results for most of them only satisfy the condition for classifying them as quasiparticles. Nevertheless, quasiparticles should not be generalized as real particles (a special subset of particles). It is known that exotic particles (such as magnetic monopoles) exist in superset of particles and quasiparticles. However, "exotic" statements are only suggestive and the observed particles are not automatically proved to be real particles.
The properties of quarks indicate that they are quasiparticles. They have never been observed free (as e.g. holes outside semiconductors). Their confinement and fractional charge look like the fractional quantum Hall effect in a dimensionally confined solid (partially bosonic).
The photon is also like phonon. The Compton scattering, the historical "proof" of photon as a real particle, is based on the "definition" of quasiparticle. The formula, describing this scattering process on free electrons (in solid), was derived in such a way that we can *ascribe* the energy and the momentum to the electromagnetic radiation (but its scattering depends angularly on the polarization of radiation which is in fact the time varying scalar potential (its gradient) derived/retarded from (frequency of periodic) movement of charge sources in space specified with a given momentum and energy). Moreover, photons are not directly observed (only as excitations of electrons in detectors). Also the photoelectric effect (a cutoff frequency) and the discrete spectrum (a resonance frequency) have nothing to do with real particles for this field (from the potential that is linearly additional in vacuum). Also correlations (such as Bell test experiments) cannot prove it [2].
Also all other bosons look like quasiparticles (or composite particles). Their quasiparticularity is indicated by the property that they can occupy the same state (and represents a field of real particles). The spin, an "intrinsic" property for distinction of them from fermions, was directly measured only on orbiting or composite particles (i.e. it can be the real relativistic angular momentum/charge current corresponding to the coordinate transformation - similar as for the magnetism). Nevertheless, the angle is (generally) a parameter of function in tensor of rotation (often described as pseudovector in 3D). Thus the description of motion with a local ability of rotation allows local anisotropy (tensor) that is not intrinsic property of physical space. The magnetic vector potential was introduced to describe currents in ("neutral")

conductor. Nevertheless, local density of charge (as a function of coordinates and time with corresponding scalar potential) composed from positive and negative charges (like as composite particles) can describe currents without this ("pseudo") vector potential.
The charged leptons (except the case of electron) are not stable in time (cannot be elementary particles) and behave like some excitations of electrons. The neutrinos are currently elusive enough to support sufficiently any theory. More experiments are needed. Because only real experiments (useful for people) must be based on causality (response to the question) and the evidence based science should not be only about a statistical ("quantum") correlation that does not imply causation (and opens up questions). Observations of "particles" (in collisions done by different kind of particles) are not sufficient. We should also directly manipulate with these "observed" [quasi]particles.
The experience (belief in free will) with a local part of the Universe could mislead to the time arrow existence [3] (imperfect symmetry from finiteness of considered space) and together with the statistical picture it leads to the "irreversibility" (from unresolved causality). Nevertheless, the global conservation and closed cycle is possible [4] (perfect symmetry and infinite motion/constant entropy in infinite space that is answerless). The correlation with model or equation (e.g. of motion) is based on the symmetry (conservation laws) without existence of causes/creations. The finite speed of interaction is a limit for potential waves (dynamic accelerations) and it is not a limit for motions and it is not a source of causality.
Thus we can see that this zoo of particles can be parameters of "solid state physics" (including a local anisotropy and other imperfections that also normally occur in solids) and the real picture can be far from the interpretation of model that is (always) limited by the current measurement data.

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