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On a singular solution in Higgs field (5) –The degenerates into the candidates for dark matter and dark energy from ur-Higgs bosons

In preceding papers the mass, structure 1) of SM Higgs boson (H^0) and the relation 2) between the calculated mass (120.611 GeV/c^2) and recent results of LHC were discussed. There the corrected mass of Higgs boson by replacing the masses of consisting mesons with the ones of their 1st excited (or upper-resonant) states respectively, was at 125.28 GeV/c^2 which met the latest masses of ATLAS and CMS. In this paper we study the degenerates into the candidates for dark matter and dark energy from ur-Higgs bosons which has appeared as a mother for SM Higgs boson above. It is shown that only about a tenth of them (ur-Higgs) can be transformed to the Higgs boson with corrected mass by γ-irradiation from surroundings, which is in electroweak interaction with particles. The remainder degenerate into the hybrid molecules of a glueball and pseudo-scalar mesons (candidate of dark matter); and into the quasi-crystals of fullerene consists of σ mesons and some ω mesons (candidate of dark energy) which will rise repulsive strong force as soon as the (free) fullerenes approach very near each other. Where we regard the developed fullerene as a 'finite nucleus of the limit of N(p, n)⟶0, namely, m(p, n)⟶0' in Dirac equation of mean-field theory. And large amount of condensing (latent) heat from (tt_bar)* gas to the liquid (Higgs boson) might be considered as at last transformed to dark energy, by which the quasi-crystal above would be annealed (or sublimated) to more developed fullerene. Then the content ratio between matter (atom), dark matter and dark energy is consistent with the latest result of WMAP (9 Years). It is interesting that if we choose reciprocal of the fine structure constant (1/α) as a mass contributing factor (number) of gluon in QGP for matter, the content ratio is completely in accordance with WMAP. Also our mass of dark matter (considered at around 120.611 GeV/c^2) seems relevant to the result of Fermi-LAT.

1) K. K., APS DPF Meeting 2011: 166.
2) K. K., 51st BORMIO Meeting 2013: 71; to be, PoS(Bormio 2013)008.

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