

Abstract Submitted
for the FWS19 Meeting of
The American Physical Society

Volume Field Model (VFM) Versus Particle Model (PM)

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— Within the frames of Standard Model and General Relativity, the most problems in natural world are explained perfectly in terms of particle , but there still exist some problems unsolved, such as black hole, the origin of universe, dark matter, and dark energy etc. Maybe there exist different forms of matter and motion in the basic level of natural world. This author proposes that: (1) Fundamental matter mass and electricity exist in the form of particle, fundamental matter flavor and color exist in the form of volume field with limited volume; Thus, fundamental body, such as quark, is composed of fundamental particle (mass and electricity) and fundamental volume field (flavor and color). (2) Volume field takes volume motion instead of displacement motion, it has the property of restoration when volume field deforms due to external force, which is like the inertia of a particle. (3) Volume motion has the property of absoluteness instead of relativity. (4) Predicting the existence of volume-field-like quark and neutrino. (5) Hadron has atom-like structure with its hadronic nucleus (composed of particle-like quarks) surrounded by extranuclear quarks (composed of volume-field-like quarks), therefore the particle model of strong interaction and weak interaction must be modified . (6) The essence of black hole and the origin of universe is the dynamics of volume field in hadron. (7) Predicting the existence of dark matter particle which only carries mass. (8) Dark matter particles connect each other to form into another kind of dark matter volume field, the inflating universe attributes to the dynamics of dark matter volume field.

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Date submitted: 06 Oct 2019

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