

Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Fermionic dark matters, dark energy, massive graviton and extended standard model JAE-KWANG HWANG, Retired — Three generations of leptons and quarks correspond to the lepton charges (LCs) in this work [1,2]. Then, the leptons have the electric charges (ECs) and LCs. The quarks have the ECs, LCs and color charges (CCs). Three heavy leptons and three heavy quarks are introduced to make the missing third flavor of EC. Then the three new particles which have the ECs are proposed as the bastons (dark matters) [2]. It is proposed that the gravitational force between dark matters should be much stronger than the gravitational force between the matters and the electromagnetic force between dark matters in order to explain the observed dark matter distributions of the bullet cluster, Abell 1689 cluster and Abell 520 cluster [1]. Also, the accelerated space expansion is caused by the new space quanta created by the evaporated gravitons into the $x_1x_2x_3$ space and repulsive electromagnetic force between dark matters corresponding to the dark energy [1]. And the space evolution can be described by using these graviton evaporation and repulsive electromagnetic force, too [1]. The presence of the 3.5 keV cosmic X-ray supports the presence of the Q1 quark with the EC of $-4e/3$ [2]. New particles can be indirectly seen from the astrophysical observations like the cosmic ray and cosmic gamma ray. 1. J.K. Hwang, www.researchgate.net/publication/320695036 . 2. J.K. Hwang, Modern Physics Letters A32, 1730023 (2017).

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Date submitted: 15 Dec 2017

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