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AUTHOR-DURGADAS DATTA . MECHANICAL ENGINEER WITH INTEREST IN PHYSICS. E-MAIL:durgadas.ddatta@gmail.com. COUNTRY—INDIA. PAPER FOR PUBLICATION: GRAVITY MECHANISM AND A THEORY OF THE UNIVERSE PRESCRIBING WHAT IS FUNDAMENTAL.

Abstract: Standard model given us a basic understanding of twelve matter carrying fields and four force carrying fields to visualize actions and reactions in a quantum vacuum field of HIGGS FIELD. LHC

detected Higgs field and a Nobel prize was given.

But we are not sure about the kind of HIGGS as described in standard model and a lot of questions cropping up.

It is clear from standard model understanding that our universe is a sea of many matter and force carrying fields swirling and whirling as an exotic super fluid which I named gravitoetherton super fluid.

There is no reason to believe that this field density should be isotropic as prescribed by Einstein as COSMOLOGY CONSTANT. So quantum

vacuum is basically a bubbling froth where the drama of all interactions take place . We also think that virtual particles appearing and disappearing to keep the account clean in calculations of QCD/QED from Fdiagrams.

But the greatest puzzle of 10^{120} order magnitude remains without any satisfactory explanation. Under such basic assumptions and a

standard model along with probabilistic quantum physics , we are searching for a theory of everything .

Some new ideas and NEW PHYSICS is required to go beyond and accepting that neither SR and GR of Einstein can be taken for granted .

So what I will be discussing now may look as not following current frame of physics and even some imagination to be checked in further

experiments in LHC .
What is gravity? Where are the gravitons? Newton prescribed gravity is a force of attraction between masses but Einstein conceived a picture of curved space-time to appear as gravitational flow. Though Einstein rejected the requirement of ether from MM experiment but failed to explain why space-time will curve. But his equations to balance the force of the universe due to gravity required a fudge factor named cosmology constant to describe static or expanding universe . And the mechanism of gravity remained unknown. Modern physics considers graviton as mass less spin 2 exchange type particle in standard model . Gravitons have not been seen so far and a quantum theory of gravity or emergent gravity model etc are popular which may not be true . There is no accepted point of view in gravity mechanism due to lack of data. In the year 2002 I published a few papers namely, 1// ETHER=GRAVITY=DARK ENERGY THEORY OF GRAVITOETHERTON SUPER FLUID UNIVERSE. .2//BALLOON INSIDE BALLOON THEORY OF MATTER AND ANTIMATTER UNIVERSES ON OPPOSITE ENTROPY PATH AND REVERSE ARROW OF TIME. I imagined our matter universe inside an antimatter universe on opposite entropy path and reverse arrow of time giving rise to a re bounce ,re cyclic scenario instead of a big bang. The common boundary of these two universes is violent due to annihilation of matter and antimatter where an exotic mixture of some force carrying particles as well as quarks are generated and injected into both the universes for growth. Long after we even got some indications of a parallel universes in dark flow or dark pull observations. Now the question of what is fundamental is being discussed in science forums and I beg to state that the situation when one universe in my theory reaches a very low entropy, a BIG BOUNCE will give Dr. Guth and exponential inflation. The most fundamental is the force of rebound and this force will decide the configuration of quarks , namely TeTRA QUARK OR PENTA QUARK etc etc giving the laws of nature accordingly to manage the situation afterwards. I do not have a good mathematics for describing how the tetra quark or penta

quarks from the initial BIG BOUNCE OR EVEN THE LAWS OF NATURE. Then we know as happened in our universe of galaxy formation around escaped evaporation black holes as seeds -may be after 400000 years . The evolution of our universe thereafter is described in our model . I WILL NOW EXPLAIN THE THE SWIRLING AND WHIRLING , FLOWING ETC ETC OF THIS GRAVITOETHERTON SUPERFLUID WHICH EINSTEIN DESCRIBED CURVING OF SPACE-TIME. The two most important constituents in gravitoetherton super fluid are FERMION GRAVITONS FOR NEWTONIAN GRAVITY AND BOSON GRAVITONS FOR STRONG NUCLEAR FORCE. Let me stress here that gravitoetherton super fluid is non isotropic field density due to concentration of gravitons. In my theory the fermions gravitons have a mass of 750 proton mass due to observed acceleration due to gravity on earth surface. These FERMION GRAVITONS are very very small in size but heavy and only effect is gravity push towards its direction of flow. On earth surface the fermion gravitons are flowing like arrows towards center of earth and pushes all molecules so that there is equal fall of heavy or light molecules. The fermion gravitons are gradually getting concentrated as it flow towards center of earth. THE SPHERICAL AREA GETTING REDUCED BY A FACTOR $1/R.R$ WHERE R IS THE DISTANCE FROM CENTER OF EARTH. THEREFORE THE MOLECULES MUST ADJUST SIZE FROM THE CENTER OF EARTH TO SUSTAIN A CHANGING FORCE ON IT FROM FERMION MOLECULES FOR A EQUAL FALL. ALL MOLECULES FALL EQUALLY ALSO AVOGADROS THEOREM IS VALID. THEREFORE AS ALL MOLECULES HAVE DIFFERENT MASS AND VOLUME , WE CAN DERIVE THAT $M/R.R$ FOR ALL MOLECULES MAINTAINS CONSTANTCY FOR EQUALL FALL. HERE M IS MASS AND R IS RADIUS OF ANY MOLECULE. THIS IS PUSH GRAVITON THEORY. IF WE WISH, WE CAN REVISE NEWTON AS $F=P.G.M.m/r.r$ where P is space graviton concentration factor. The center of earth is getting focused fermion gravitons giving a molten magnetic core. Now the galactic rotation curves as observed by Dr.Rubin is explained . The galaxy disk of gravitoetherton superfluid is rotating as a CENTRIFUGE , thereby the FERMION GRAVIONS are locating more and more from the center of the disk towards periphery allowing the outer stars to rotate as observed defying Newton. So standard model description of graviton is wrong and soon we will find a heavy particle having 750

proton mass to qualify for FERMION GRAVITON. As such the mystery of DARK MATTER is solved as FERMION GRAVITONS ARE DARK MATTER IN ITSELF. From this discussion it is obvious that in a chanced BOUNCE with right jerk force of bounce , we will get right balance of quark configuration and consequent natural laws to allow formation of universe with tuned laws and configuration of quarks in matter formation so that a planet like earth may develop to harbor intelligent life to ponder about our universe and the question -What is FUNDAMENTAL.