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Hypersphere world–Universe model

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Hypersphere World – Universe Model (WUM) views the World as a 3-dimensional Hypersphere that expands along the fourth spatial dimension in the Universe. Model is based on Maxwell's equations that form the foundation of Electromagnetism and Gravitoelectromagnetism that is an approximation to the Einstein's field equations for General Relativity in the weak field limit. The existence of the World's Medium is a principal point of WUM. It follows from the observations of Intergalactic Plasma; Cosmic Microwave Background Radiation; Far-Infrared Background Radiation; Cosmic Neutrino Background; Gamma-Ray Background. The Medium consists of stable elementary particles with lifetimes longer than the age of the World: protons, electrons, photons, neutrinos and dark matter particles (DMP). WUM is based on two Fundamental parameters: fine-structure constant α and a dimensionless time-varying parameter *Q* that is the measure of the curvature of the Hypersphere. It can be calculated from the value of the gravitational constant and in present epoch equals to: $Q = 0.759972 \times 10^{40}$. Model suggests that all time-dependent parameters of the World are inter-connected and in fact dependent on *Q*. WUM provides a mathematical framework that allows calculating the primary cosmological parameters of the World that are in good agreement with the most recent measurements and observations: the age of the World and Hubble's parameter; temperatures of the cosmic microwave background radiation and the peak of the far-infrared background radiation; the concentration of intergalactic plasma and time delay of Fast Radio Bursts. Model makes predictions pertaining to masses of DMP, photons and neutrinos. The signatures of DMP annihilation with predicted masses of 1.3 TeV, 9.6 GeV, 70 MeV, 340 keV and 3.7 keV are found in spectra of the diffuse gamma-ray background and the emission of various macroobjects in the World. The Model proposes to introduce a new fundamental parameter *Q* in the CODATA internationally recommended values.

Biography

Vladimir S Netchitailo is a Doctor of Sciences in Physics, having worked under the guidance of Alexander Prokhorov, a Nobel Prize winner. During his career, he has published over 150 papers. He has developed the World-Universe Model - a cosmological model that demonstrates that there exist direct relationships among the cosmological parameters of the world and provides a mathematical framework that allows calculating them directly.

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