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Possible Existence of Overlapping Universe and Antiuniverse

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The creation of antihydrogens at CERN (1995) and Fermilab (1997) and the very recent synthesizing of anti-heliums at CERN (2011) have invigorated the fascinating idea about the existence of separate universe and antiuniverse as a resultant of the big bang. Particularly, the production of exotic atoms composed of particles and antiparticles (e.g. positroniums, Ps, protoniums, Pn, true muoniums, Mu, and pioniums, $A2\pi$) as well as the experimental formation of positronium molecules, Ps₂, and theoretical predictions of exotic four-body systems composed of matter and antimatter (e.g. Heterohydrogens, PsPn, Ps Mu, PsA₂ π) open the gate in front of new research activities aiming to investigate the possible existence of overlapping universe and antiuniverse. The main goal of the present work is to discuss this possibility and show that it provides us with satisfactory explanations of the dilemma connected with the rare existence of antimatter in our universe and the mysterious astrophysical observation of highly energetic gamma-rays occurring at the edge of our universe.

Summary

This work is addressing two problems, namely the rare existence of anti matter in our universe and the existence of high energetic gamma- rays at its edge.

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