Abstract Submitted
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The Janus Cosmological Model (JCM) : An answer to the missing cosmological antimatter GILLES D'AGOSTINI, none, JEAN-PIERRE PETIT, Retired — Cosmological antimatter absence remains unexplained. Twin universes 1967 Sakarov's model suggests an answer: excess of matter and anti-quarks production in our universe is balanced by equivalent excess of antimatter and quark in twin universe. JCM[1] provides geometrical framework, with a single manifold , two metrics solutions of two coupled field equations, to describe two populations of particles, one with positive energy-mass and the other with negative energy-mass : the 'twin matter'. In a quantum point of view, it's a copy of the standard matter but with negative mass and energy. The matter-antimatter duality holds in both sectors. The standard and twin matters do not interact except through the gravitational coupling expressed in field equations. The twin matter is unobservable from matter-made apparatus. Field equations shows that matter and twin matter repel each other. Twin matter surrounding galaxies explains their confinement (dark matter role) and, in the dust universe era, mainly drives the process of expansion of the positive sector, responsible of the observed acceleration (dark energy role). [1]Negative mass hypothesis and the nature of dark energy Mod. Phys. Lett.*A* **29**, 1450182 (2014)

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none

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