ERRATUM

CP NONINVARIANCE AND AN EFFECTIVE COSMOLOGICAL CONSTANT: THE ENERGY DENSITY IN A PSEUDOSCALAR FIELD WHICH ARISES FROM A COSMOLOGICAL, SPONTANEOUSLY-BROKEN CHIRAL SYMMETRY

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In Refs. 13, the first page number should read 167, and the third page number should read 369.

Supposing that both very light b particles and very heavy ϕ particles constitute a part of the dark matter, then exchange of a very light b particle between a pair of b , a pair of ϕ and a ϕ - b pair (assumed to have very small, intrinsic relative velocity), gives rise to attractive long-range potentials. Taking the ratio of the strength of the new Yukawa potential for a b -pair, within the range $\sim 1/m_b$, to the gravitational potential for a ϕ -pair, we obtain $1/64\pi(\phi_c/M_P)^2 \sim 1$, independent of the parameter λ . The possibly greater coherent effect of the new potential between concentrations of large numbers of dark-matter particles originates in the possibility that the number density of very light b can be greater than that of very massive ϕ . It is possible that a present number density of b particles could originate in production by a time-varying gravitational field⁸ over a time interval during the early rapid expansion of the universe.

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