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CP violation from QCD Z (3) domains

Content :

We explore the possibility of spontaneous CP violation in the scattering of quarks and anti-quarks by QCD Z (3) domain walls. The C and CP violation in our study comes from the background gauge field (A_0) profile between different Z (3) vacua. This has interesting consequences for the universe and RHIC experiments. In case of universe, this allows us to have a Baryogenesis scenario without any baryon number violating interactions, while in case of RHIC experiments it leads to baryon enhancement at high PT and additional J/ψ suppression.

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