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Masses, decay constants and electromagnetic form-factors with twisted boundary conditions

Monday, 29 June 2015 18:00 (20 minutes)

The talk will describe the recent work at one-loop Chiral perturbation Theory with twisted boundary conditions [1]. We point out that due to the broken Lorentz and reflection symmetry a number of new terms show up in the expressions. The pseudo-scalar octet masses, axial-vector and pseudo-scalar decay constants and electromagnetic form-factors will be discussed explicitly. We show how the Ward identities are satisfied using the momentum dependent masses and the non-zero vacuum-expectation-values values for the electromagnetic (vector) currents. A short discussion of the needed one-loop twisted finite volume integrals as well as the the ongoing work for the K_{l3} form factors will be included [2].

[1] Masses, Decay Constants and Electromagnetic Form-factors with Twisted Boundary Conditions, Johan Bijnens, Johan Relefors, JHEP 1405 (2014) 015
[2] C. Bernard, J. Bijnens, E. Gamiz, J. Relefors, work in progress

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