Contribution ID: **2** Type: **not specified**

Hadronic contributions to electroweak observables in the framework of dispersive approach to QCD

Wednesday 29 July 2015 14:30 (30 minutes)

The dispersive approach to QCD is applied to the study of the hadronic vacuum polarization function and associated quantities. This approach merges the intrinsically nonperturbative constraints, which originate in the kinematic restrictions on the respective physical processes, with corresponding perturbative input. The obtained hadronic vacuum polarization function agrees with pertinent lattice simulation data. The evaluated hadronic contributions to the muon anomalous magnetic moment and to the shift of the electromagnetic fine structure constant conform with recent assessments of these quantities.

[1] A.V.Nesterenko, Phys. Rev. D88, 056009 (2013).

[2] M.Baldicchi, A.V.Nesterenko, G.M.Prosperi, and C.Simolo, Phys. Rev. D77, 034013 (2008).

[3] A.V.Nesterenko and J.Papavassiliou, Phys. Rev. D71, 016009 (2005).

[4] A.V.Nesterenko, Nucl. Phys. B (Proc. Suppl.) 258, 177 (2015).

[5] A.V.Nesterenko, arXiv:1411.2554 [hep-ph].

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Session Classification: CALC2015 Workshop