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HLS Approach to the muon g-2 evaluation

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The HLS model supplemented with suitable SU(2)/SU(3) breaking schemes allows to build a phenomenological model which encompasses six e+e-annihilation channels (pi+ pi-, K+ K-, K0 K0bar, pi0 gamma, eta gamma, pi+ pi-pi0), the dipion spectrum in the tau decay and a few more meson annihilation partial width information. One thus yields a simultaneous description of all these physics channels by means of quite successful global fits of all the corresponding data.

The fit results provide the six corresponding annihilation cross sections up to 1.05 GeV. This is used to determine accurately the leading order hadronic vacuum polarisation contribution up to the phi region. Supplementing this with additional information covering the physics channels falling outside the scope our model, one derives an improved estimate of the muon g-2. The data samples recently collected by KLOE play an important role in this improvement

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