A Determination of the $B^0_s$ and $B^0_d$ mixing parameters in $2+1$ lattice QCD

Presenter: Elvira Gamiz — University of Illinois
Elvira Gamiz and R. Todd Evans for the Fermilab Lattice and MILC collaborations

We report on the advances in our quenched calculation of the matrix elements relevant for the analysis of $B^0 - \bar{B}^0$ mixing using the Asqtad (light quark) and Fermilab (heavy quark) actions. The fitting and matching procedures are discussed for both the $B^0_s$ and $B^0_d$ mixing parameters. We have calculated the hadronic parameters for the mass and width differences in the neutral $B$ meson system. Results are presented for the corresponding bag parameters as well as $f^{\pi}_{B \bar{B}}$ and $\xi^2$. 