

Two-Photon Decay Widths in Charmonia

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Abstract: The two photon widths of charmonia have attracted the attention of a range of a theoretical and experimental techniques. Within perturbative QCD the ratio of two-photon and two-gluon widths is believed to give access to the strong coupling constant at the charmonium scale though cancellation of non-perturbative factors, while in quark models and the effective field theory NRQCD, two-photon widths have been proposed as a sensitive test of the corrections to the non-relativistic approximation. We present the first lattice calculation of charmonia two-photon decay widths using a novel application of the LSZ reduction formalism.