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Decays of excited vector mesons

Tuesday 9 May 2017 17:00 (30 minutes)

We study two types of excited vector mesons, radially excited vector mesons characterised by quantum numbers n $^{2s+1}L_J = 2^3S_1$ and angular-momentum excited vector mesons with quantum numbers n $^{2s+1}L_J = 1^3D_1$. We evaluate the decays of these mesons into pseudoscalar and ground-state vector mesons. By using an effective relativistic QFT model based on flavour symmetry, we calculate the decay widths and we compare the results with experimental data taken from PDG. We also make predictions for the $s\bar{s}$ state in the 1^3D_1 nonet which has not yet been experimentally seen. We calculate also the decay rates of excited vector mesons into a photon and a pseudoscalar meson by making use of „Vector Meson Dominance".

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