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D+s ——> K+K-K+ radiation topologies analysis

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There is no unique way of considering which one is the topology supposed to be the dominant one in decays such as $D_s^+ \to K^+ K^- K^+$ or $D^+ \to K^+ K^- K^+$. There could be relevant contributions coming from either the radiation topology or the annihilation one. Meanwhile, there are extensive analyses of the annihilation topologies considering the weak vertex as a constant, exists at the moment no clear way of radiation topologies management. The present work consists of presenting a parametrization for the radiation topologies, firstly in terms of form factors and secondly taking the limit where the weak vertex is a constant. Additionally, it is presented a differential decay rate analysis in terms of the invariant masses of the channel, and it is shonw how the radiation topologies should be coupled to the unitarized amplitudes with two bodies final states interactions.

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