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## Model-independent radiative corrections to particle decay $\Omega^- \to \Xi^0 + \bar{\nu}_{e^-} + e^-$

Tuesday 15 November 2022 16:30 (2 hours)

We calculate radiative corrections to the differential decay rate of the process  $\Omega^- \to \Xi^0 + \bar{\nu}_{e^-} + e^$ following the method used by Sirlin. Radiative corrections can be separated into model-independent and model-dependent parts. Here we consider only the independent part of the model and the Dalitz plot of this decay is obtained from it. This method has been implemented in the analysis of decays of mesons and spin 1/2 baryons obtaining several physical observables of these processes that, when compared with experimental results, it was possible to obtain information on some parameters such as shape factors. In our work, this method is used for the decay of  $\Omega^-$ , which is a spin 3/2 particle, in order to obtain information on parameters that can be determined experimentally.

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