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Radiative corrections for the decay $\Sigma^0 \rightarrow \Lambda e^+ e^-$

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Electromagnetic form factors serve to explore the intrinsic structure of nucleons and their strangeness partners. With electron scattering at low energies the electromagnetic moments and radii of nucleons can be deduced. The corresponding experiments for hyperons are limited because of their unstable nature. Only for one process this turns to an advantage: the decay of the neutral Sigma hyperon to the Lambda hyperon and the real or virtual photon. Due to the limited phase space, the effects caused by the $\Sigma^0 \rightarrow \Lambda$ transition form factors compete with the QED radiative corrections for the decay $\Sigma^0 \rightarrow \Lambda e^+ e^-$. In this talk, the complete set of these NLO QED corrections to the Dalitz plot, calculated beyond the soft-photon approximation, are presented.

Primary author: Dr HUSEK, Tomáš (IFIC (UV-CSIC))

Co-author: Prof. LEUPOLD, Stefan (Uppsala University)

Presenter: Dr HUSEK, Tomáš (IFIC (UV-CSIC))

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