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THE ANOMALOUS MAGNETIC MOMENT OF THE MUON g - 2 IN THE STANDARD MODEL AND IN SOME OF ITS EXTENSIONS

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The anomalous magnetic moment of the muon $g-2$ is a very special quantity that reflects almost the entire spectrum of effects incorporated in the Standard Model (SM) of particles, in addition to being one of the quantities measured with greater precision. Currently there is a deviation of $3-4\sigma$ between theory and experimental results, discrepancy that is waiting to be well established by current experiments such as muon $g-2$ in Fermilab and J-PARC in Japan. We calculate the $g-2$ of the muon, as it is also known, to a loop in quantum electrodynamics (QED), Then we will study some extensions of the standard model that may be sensitive to the theoretical value of the anomalous magnetic moment of the muon.

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