

Exploring X17 and dark charges in the context of Standard Model tension

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We demonstrate how the hypothetical X17 boson could influence the muon $g-2$ anomaly and the Lamb shift. Furthermore, by considering kinetic mixing between this new boson and the $U(1)_Y$ gauge field, we establish a possible contribution of the X17 to the W boson mass

Primary author: SERAO, Raoul (University of Salerno and INFN)

Presenter: SERAO, Raoul (University of Salerno and INFN)

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