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A Tale of Flavor Anomalies and the Origin of Neutrino Mass

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Experimental hints for lepton flavor universality violation in beauty-quark decay both in neutral- and charged-current transitions require an extension of the Standard Model for which scalar leptoquarks (LQs) are the prime candidates. Besides, these same LQs can resolve the long-standing tension in the muon and the recently reported deviation in the electron $g-2$ anomalies. These tantalizing flavor anomalies have discrepancies in the range of $2.5\sigma - 4.2\sigma$, indicating that the Standard Model of particle physics may finally be cracking. In this Letter, we propose a resolution to all these anomalies within a unified framework that sheds light on the origin of neutrino mass while satisfying all constraints from collider searches, including those from flavor physics.

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