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Resolving CDF-W mass shift and CKM unitarity puzzle in Left-Right Symmetric Models with Universal Seesaw

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We explore the possibility of resolving the W mass shift observed by the CDF collaboration and the apparent deviation from unitarity in the first row of the CKM matrix simultaneously in a class of left-right symmetric models with universal seesaw. A unique non-trivial solution to the two anomalies was obtained, where the down quark mixing with vector-like quarks˜(VLQ) resolves the CKM unitarity problem, while top mixing with VLQ explains the positive shift in W mass. This leads to testable predictions in the model.

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