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The status of the inclusive tau determination of V_us

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I review the current status of determinations of V_u s using inclusive hadronic tau decay data, focusing on (1) recent work establishing theoretical systematic issues with the conventional determination based on flavor-breaking finite-energy sum rule analyses employing only inclusive strange and non-strange branching fractions as experimental input, (2) an alternate flavor-breaking sum rule implementation which avoids these problems, and (3) a very recent lattice-based analysis of the inclusive strange decay distribution. The latter, in particular, clearly establishes that the V_u s implied by inclusive hadronic tau decay data is significantly larger than the results obtained from the conventional sum rule implementation, and, in fact, in good agreement within errors with the expectations of three-family unitarity.

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