

# Superaligned Nuclear Beta Decays and CKM Unitarity

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A new method for computing hadronic effects on electroweak radiative corrections to low energy semileptonic weak interaction processes is described. Applying this approach to the extraction of the quark mixing matrix element  $V_{ud}$ , Alberto Sirlin and I find from superaligned nuclear beta decay  $V_{ud} = 0.97377(27)$ .

Combining that result with recent determinations of  $V_{us}$  from kaon decays provides a precision test of CKM unitarity and constraint on new physics effects.. Prospects for further improvements are briefly discussed.

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