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### Hadronic and Nuclear Corrections to $V_{ud}$

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Recently, forward dispersion relations were applied to the calculation of the radiative  $\gamma W$ -box correction to neutron and nuclear  $\beta$ -decay. These new developments allowed to almost halve the hadronic uncertainty in  $V_{ud}$ . Taken at its face value, it lead to a significant shift in the extracted value of  $V_{ud}$  and raised tension with the top-row CKM unitarity,  $\Delta_{CKM} = -0.0016 \pm 0.0004$ . On the other hand, the application of this new technique to nuclear decays indicated that nuclear uncertainties may have been underestimated and further efforts from nuclear theory are welcome to clarify this situation. Recent high-precision measurements of the asymmetries in free neutron decay together with plans to improve the measurements of the neutron lifetime promote free neutron decay as a valid alternative to superallowed nuclear decays as a source of precise information on the value of  $V_{ud}$ .

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