

The Weak Charge: From Atoms to the Z-Pole

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I review the status of theoretical calculations that empower the precise determination of the weak mixing angle across the whole range of currently accessible energies. The key ingredients include the EW running of $\sin^2 \theta_W$, and applications of the dispersion relations to radiative corrections that involve effects of the strong interaction. The upcoming low-energy experiments with polarized electrons will be sensitive to a wide range of New Physics, heavy and light, thus complementing collider searches.

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