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The W-mass listed here corresponds to the mass parameter in a Breit-Wigner distribution with mass-dependent width. To obtain averages of various measurements, common systematic uncertainties between experiments are evaluated and accounted for in combinations [SCHAEEL 13A, Amoroso 2023].

Until 2022, the measurements of the W-boson mass at lepton and hadron colliders, LEP-2 (ALEPH, DELPHI, L3 and OPAL), Tevatron (CDF and D0), and LHC (ALEPH and LHCb), were in good agreement with each other [PDG 2022]. However, with the new CDF result [AALTONEN 2022] based on their complete Run-II data set, this is no longer the case.

The LHC-TeV MW Working Group, including W-mass experts from CDF, D0, ATLAS, CMS and LHCb [Amoroso 2023], has examined this issue in depth. They report that a combination of all W-mass measurements corrected to a common theory description and PDF set, has a probability of compatibility of 0.5% only, and is therefore disfavoured. A 91% probability of compatibility is obtained when the CDF-II measurement is removed. The corresponding value of the W boson mass is  $80369.2 \pm 13.3$  MeV, which we quote as the World Average.

More information is given in [M. Grunewald and A. Gurtu, "Mass and Width of the W Boson" review, PDG 24] and in [Amoroso 2023].