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W$ boson mass tension caused by its right-handed gauge coupling at high energies?

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The recent high-precision measurement of the W mass by the CDF collaboration is in 7.0 σ tension with the Standard Model (SM) expectation. This tension can be relieved if the W boson possesses a non-trivial right-handed gauge coupling at high energies. Such a right-handed gauge coupling induces by the SM gauge symmetric four-fermion interactions at TeV scales, where SM fermions compose massive composite particles. We study the top-quark mass generated by spontaneous symmetry breaking and calculate the W and Z boson propagators and decays. The right-handed coupling corrections to their masses and widths are consistent with experimental measurements. We discuss the restoring parity-preserving gauge symmetries by the SM gauge bosons and composite
particles at TeV scales.

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