

Measurement of W single spin asymmetries at PHENIX

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The measurement of the single spin asymmetries of parity violating W boson production in longitudinally polarized proton collisions provides unique and clean access to the light sea quark helicity distributions. The W boson couples only to left-handed quarks and right-handed anti quarks, and hence one can directly relate the charge of the W with initial state quark flavors. The PHENIX experiment at RHIC has performed the single spin asymmetry measurements at $\sqrt{s} = 510$ GeV in 2011-2013. W bosons are accessed through their lepton decays at PHENIX, electrons at mid-rapidity and muons at forward rapidity. In this talk, the recent results of the single spin asymmetries will be presented.

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