Measurements of W and Z/γ^* cross sections and their ratios in pp collisions at STAR

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While the unpolarized valence quark (d and u) distributions are well determined from DIS experiments, the sea quark distributions, $\bar{d}$ and $\bar{u}$, are much less constrained, in particular, near the valence region. Measurements of W^+/W^- production ratio in pp collider experiments, such as the STAR experiment at RHIC, are sensitive to the $\bar{d}/\bar{u}$ ratio at a large Q^2 set by the W mass. This talk will discuss the recently published W and Z/γ^* cross section measurements via lepton-decay tagging, using the STAR pp collision data at a center-of-mass energy of $\sqrt{s} = 510\,\text{GeV}$ collected during the years 2011-2013, corresponding to an integrated luminosity of $\sim 350\,\text{pb}^{-1}$. The present talk will also discuss preliminary results based on an additional pp data set at $\sqrt{s} = 510\,\text{GeV}$ collected in 2017, corresponding to an integrated luminosity of $\sim 350\,\text{pb}^{-1}$.