

Quark isospin asymmetry at small and large x

Thursday 1 October 2015 16:05 (15 minutes)

We discuss an improved determination of the up- and down-quark distributions in the proton using recent data on charged lepton asymmetries from W^\pm gauge-boson production at the LHC and Tevatron. The analysis is performed in the framework of a global fit of parton distribution functions. The results are consistent with a non-zero iso-spin asymmetry of the sea, $x(\bar{d} - \bar{u})$, at small values of Bjorken $x \sim 10^{-3}$ indicating a delayed onset of the Regge asymptotics of a vanishing $(\bar{d} - \bar{u})$ -asymmetry at small- x .

Primary author: ALEKHIN, Sergey (Hamburg University)

Co-authors: BLUEMLEIN, Johannes (DESY-Zeuthen); PLACAKYTE, Ringaile (DESY); MOCH, Sven-Olaf (Hamburg University)

Presenter: ALEKHIN, Sergey (Hamburg University)

Session Classification: Particle Phenomenology