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## Simultaneous Bayesian reweighting of TMDs

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We present an extension of the Bayesian reweighting procedure to the case of multiple independent extractions of TMDs from SIDIS and  $e^+e^-$  data, namely the quark Sivers, transversity and Collins TMD functions. The reweighting is performed using  $A_N$  data measured in  $p^\uparrow p \rightarrow \pi X$  collisions at RHIC. The agreement with  $A_N$  data at large- $x_F$  values, a kinematical region complementary to those explored in SIDIS measurements, is enhanced, improving the knowledge of the polarized quark TMDs in the large- $x$  region.

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