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Constraining Z' widths from p_T measurements in Drell-Yan processes

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We define a Focus Point (FP) Asymmetry, A_{FP} , obtained by integrating the normalised transverse momentum distribution of either lepton produced in the Drell-Yan (DY) process below and above a point where a variety of popular Z' models all have the same magnitude.

For a given Z' mass the position of this FP is predictable, depending only on the collider energy and on the low transverse momentum cut chosen in the normalisation procedure.

The resulting A_{FP} is very sensitive to the Z' width, and can be used to constrain this parameter in experimental fits.

Summary

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