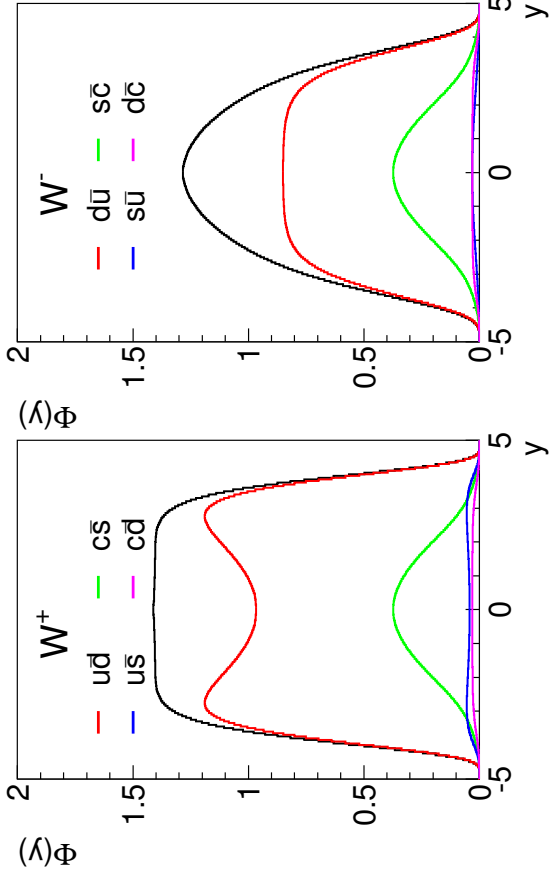
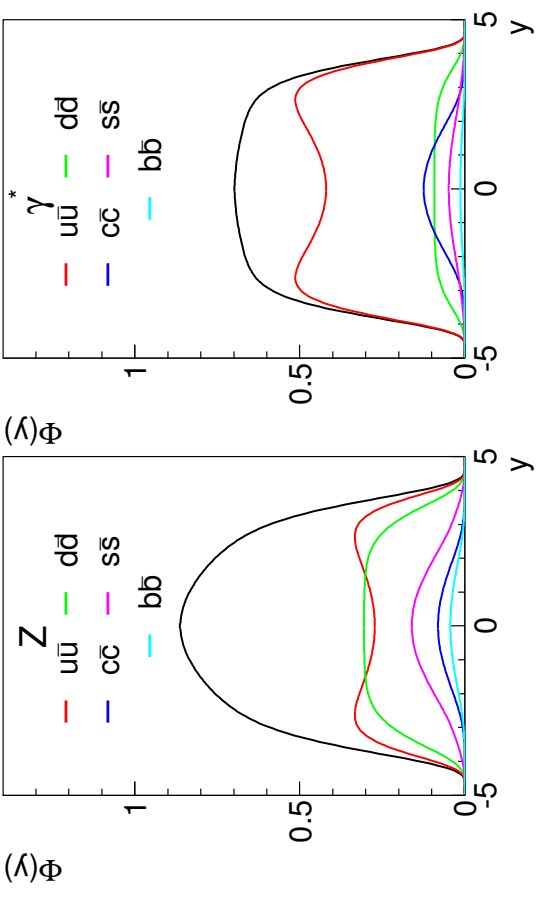


# $W^\pm, Z(\gamma)$ rapidity dependence flavour decomposition

$Z$  production is more sensitive to  $d$ -type quarks while photon production is more sensitive to  $u$ -type quarks. Different in  $y$ -shapes for  $u\bar{u}$  vs  $d\bar{d}$  vs  $s\bar{s}$  because of the  $2u_v, d_v$  quarks.



$W^+, W^-$  production is more sensitivity to Cabibbo favored  $ud$  and  $cs$  combinations.

Measurements of  $W, Z$  production differentially in  $y_Z$  and  $\eta_\ell$  provide information on light sea decomposition.