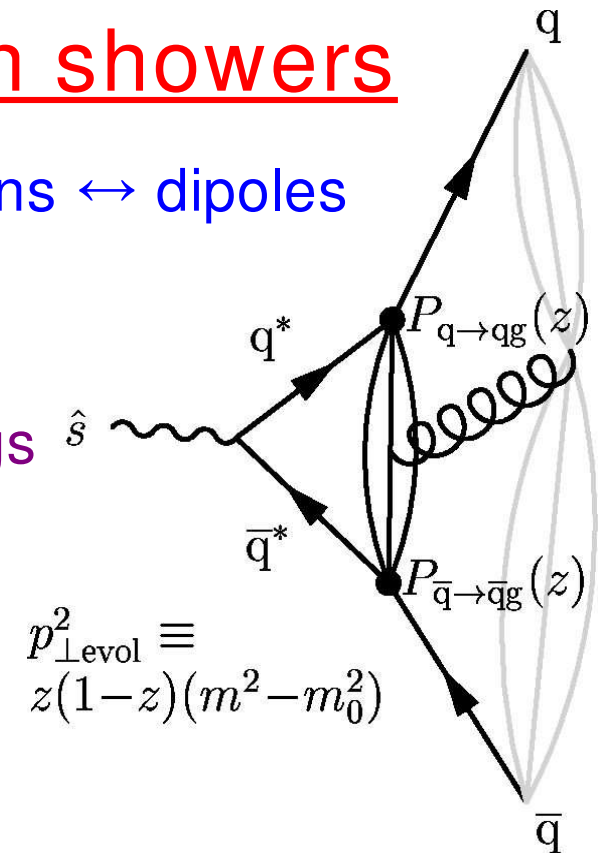


PYTHIA 6.3

- “0'th” approach to matching: improve parton shower algorithm itself
(if doable, gives fast results for “all” processes)
- ⇒ Completely rewritten parton showers
 - Based on dual description of QCD: partons \leftrightarrow dipoles
 - Ordered in (lightcone) p_T of branchings
Sudakovs \Rightarrow Priority to high- p_T branchings
 - ISR + FSR, QCD + QED

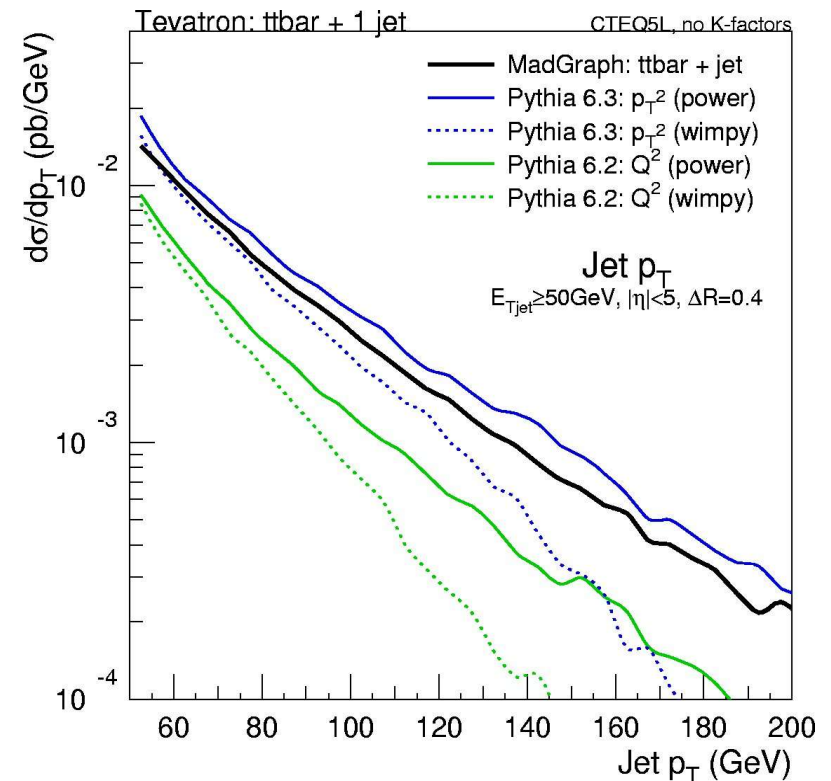
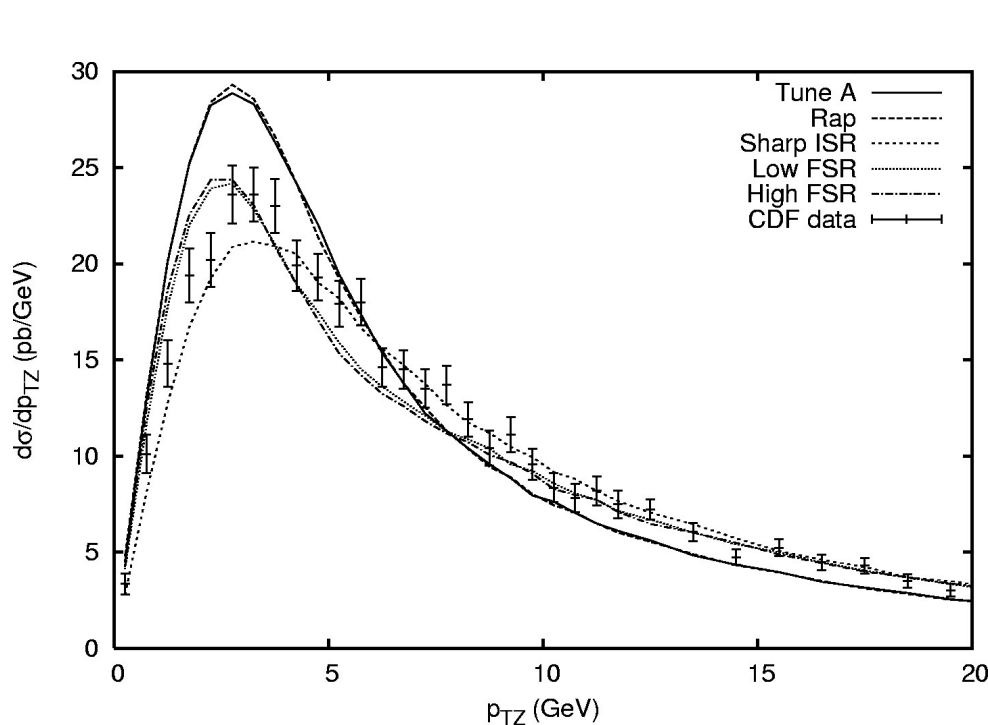


(old Q2-ordered showers also still kept as option)

PYTHIA 6.3

- FSR algorithm compared to LEP data G. Rudolph (ALEPH) 2004
 - Improved description (generator “correct” to $\sim 1\%$)
- ISR algorithm: pp DY, ttbar+jets Plehn, Rainwater, PS

Huston, Mrenna, Sjostrand, PS



PYTHIA 6.3

Max shower scale (hat or no hat) is very important

⇒ “power showers” vs “wimpy showers”

