

W+charm: Theoretical predictions



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- W+c production implemented in **MC²FM in NLO**
(fixed order calculation including real and virtual corrections)
- Jet clustering algorithm (anti-kt with R=0.4) run on partons ensures well defined observables / interpretable results
- Interfacing MC²FM with APPLgrid allows to:
 - Change PDF and Factorization/Renormalization scale easily
 - For W+c: Well defined final states (no jet labelling needed)
 $W \rightarrow (\nu(p3) + e(p4)) + c\text{-quark}(p5) + \text{add.jet}(p6)$
 - Cuts can be implemented and distributions of variables filled
 - Analytical calculations often used in PDF fits
 - Branching into semi-leptonic muon not available

