D0 results on Quarkonium production

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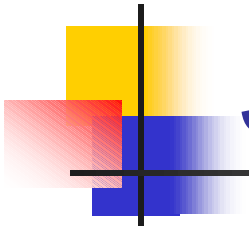
for

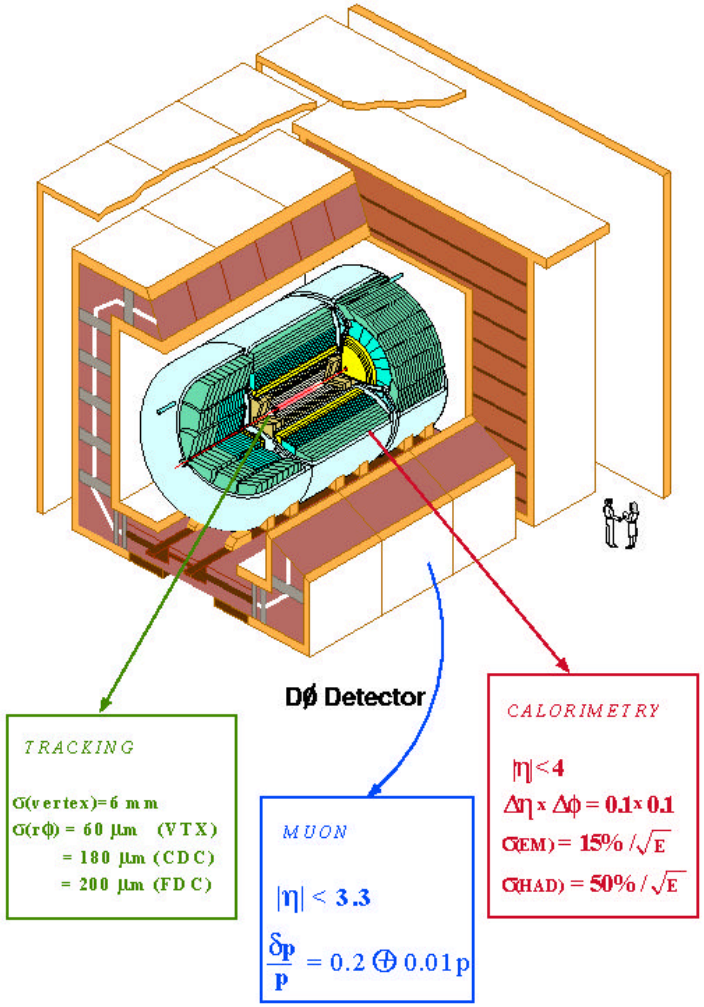
D0 Collaboration



J/psi production modes

- Direct production
  - Color singlet model
  - Color octet model
- Decays of higher mass charmonium states
- b quark decays

The D0 Run I detector



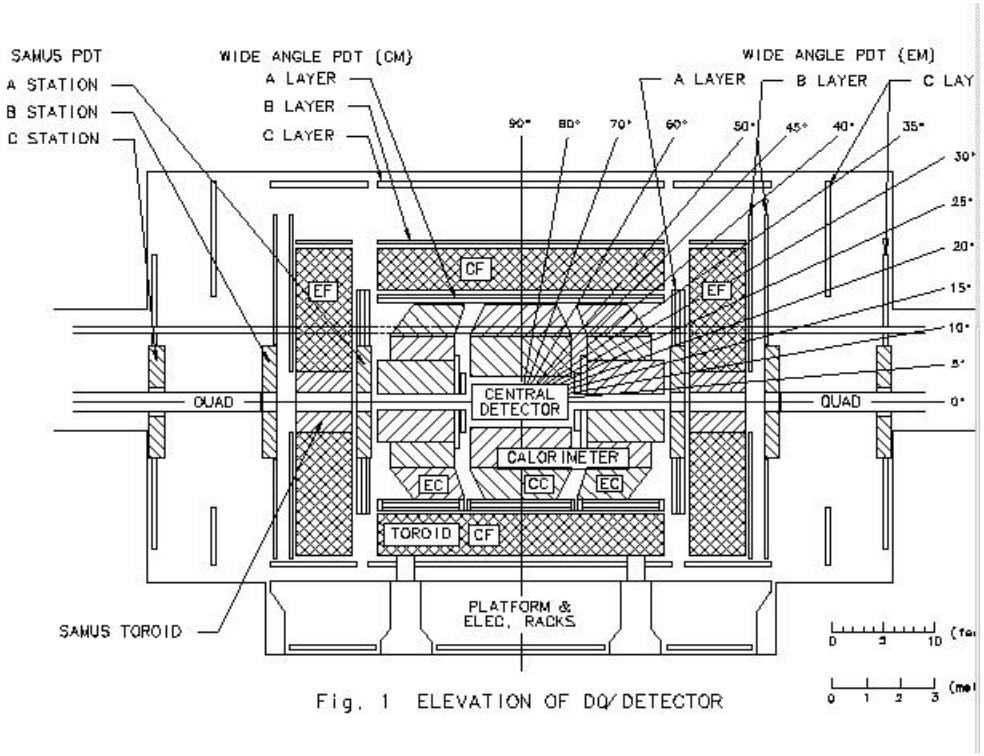


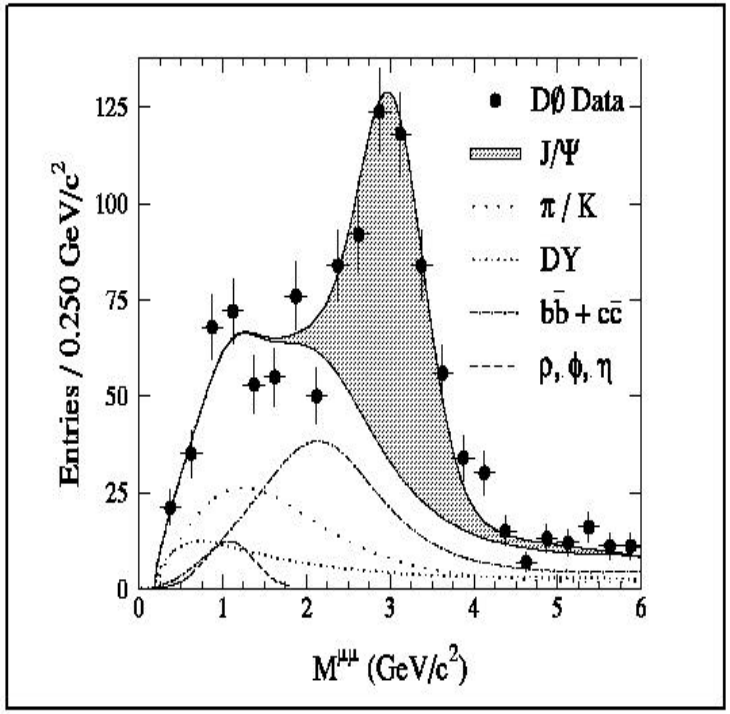
Fig. 1 ELEVATION OF DØ DETECTOR

Event selection

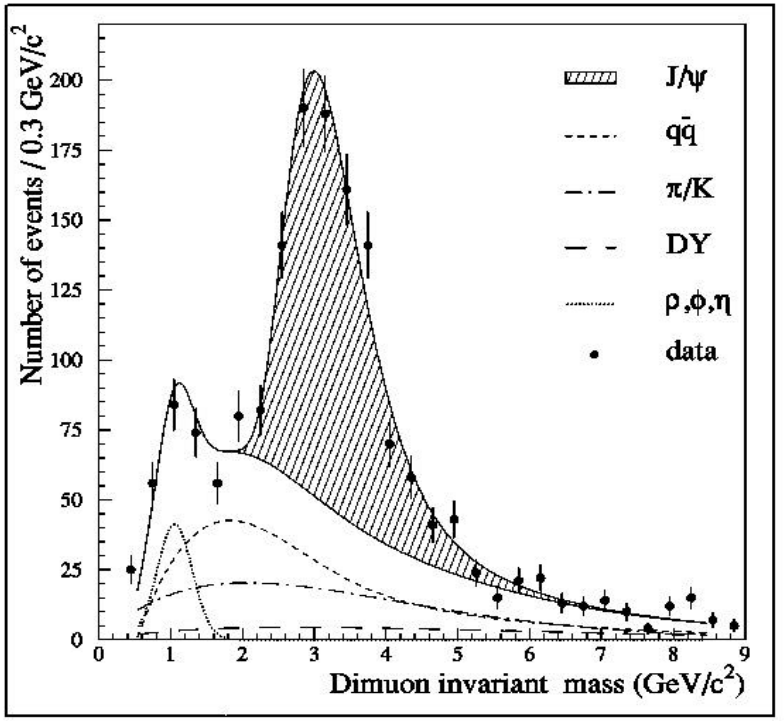
- Two muons with $|h_m|$<1. and $|h_{mm}|$<0.6
- Dimuon trigger
- Energy deposition >1GeV
- Matching tracks in central tracker
- At least one hit in the innermost layer of the muon detector
- region $80^0 < f_m < 110^0$ excluded
- 1146 events for the luminosity of 6.6 pb^{-1}
- 2.2<$|h_m|$<3.3, 2.5<$|h_{mm}|$<3.7
- Single or dimuon trigger in single interuction event (p_T^m> 3Gev/c)
- At least 2 reconstructed muons with p_T^m<150GeV/c
- At least 15 hits on a track
- Energy deposition in the calorimeter>1.5GeV
- Traverse magnetic field integral > 1.2 Tm
- 1779 event for integrated luminosity of 9.8 pb^{-1}

Dimuon mass distibutions

Central region: $|h^{mm}| \leq 1$

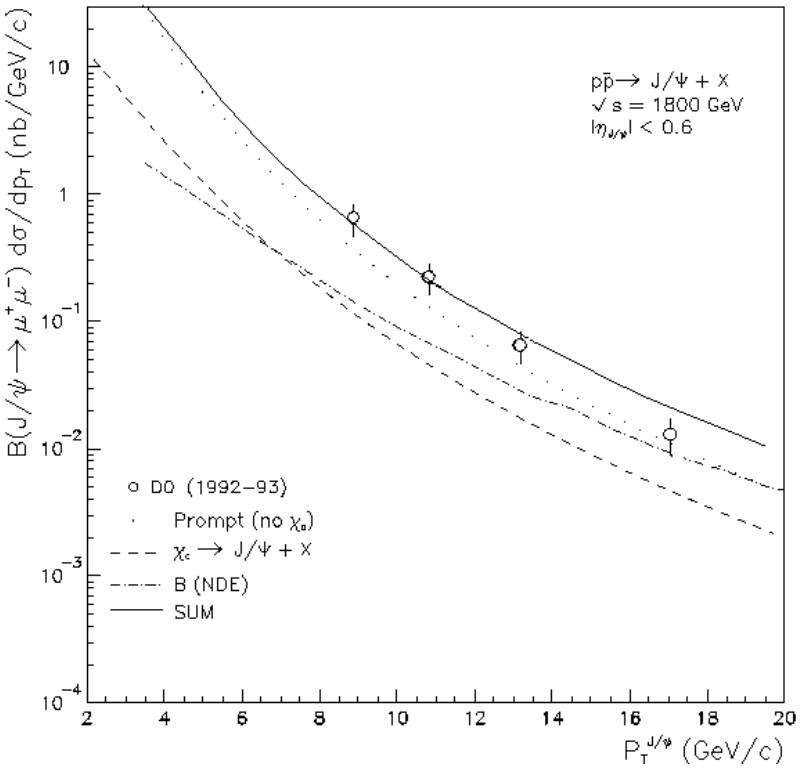


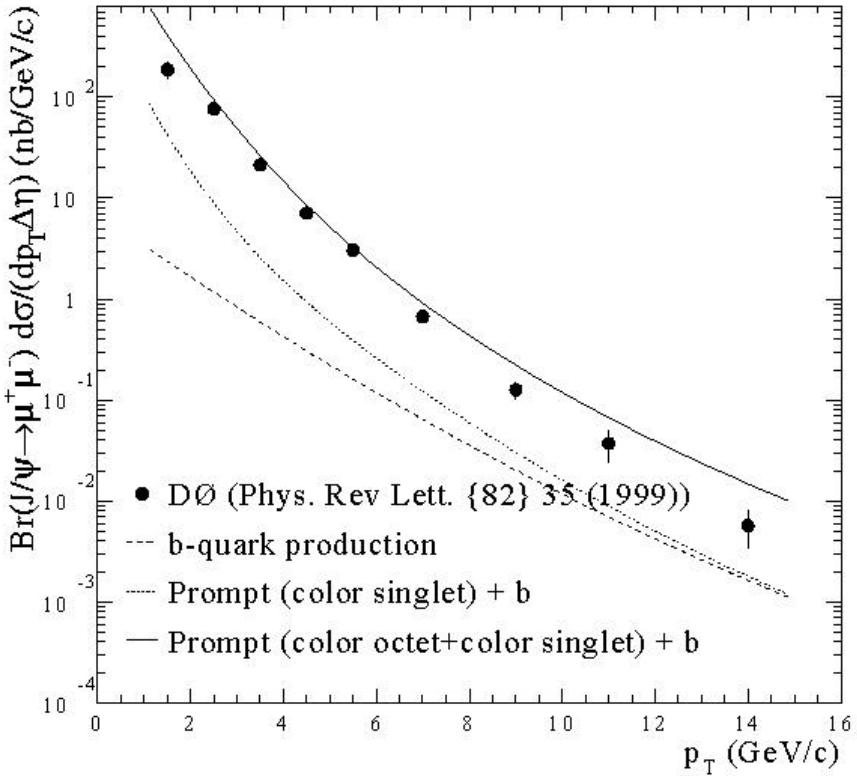
Forward region: $2.5 \leq |h^{mm}| \leq 3.7$



$1.0 \leq p_T^{mm} \leq 16\ GeV/c$

J/y p_T cross section





Rapidity dependence