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# Charmonium and Heavy Flavour Production at LHCb

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### Charmonium Production at LHCb

The underlying mechanism for the production of prompt charmonium at hadron colliders is a topic of great theoretical interest. Furthermore, charmonium can also be exploited as a tag of b-production. LHCb studies will be shown using data accumulated in the 2010 run which address these issues.

Measurements of production will be presented for both prompt and secondary  $J/\psi$  events and a comparison made with theoretical expectation. Results will also be shown for other charmonium states, and for the epsilon system.

### Open Heavy Flavour Production at LHCb

The LHCb physics programme relies on the reconstruction of the decays of B and D hadrons. An important first step in this programme is to demonstrate that this reconstruction can be done with high efficiency, and to establish the production cross-section for these hadrons in  $pp$  collisions at  $\sqrt{s}=7\text{-TeV}$ .

The differential cross-section has now been measured at LHCb using a variety of methods both for charm and beauty production. These measurements will be presented and a comparison made with theoretical expectations.

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