

London Postgraduate HEP Course 2011-12

Question

Recently the STAR collaboration at RHIC published a paper¹ on the Υ cross section in $p + p$ collisions at $\sqrt{s} = 200$ GeV

Describe in detail how these events are detected, via the decay of the Υ to e^+e^- pair, in the experiment. In your answer you should discuss the critical parts of the detector for this class of event. You should concentrate on the relevant detector technologies *and their actual performance* and not on the particle physics studied by the STAR collaboration at RHIC (interesting though it is). Similarly don't concentrate on the trigger.

Submission Procedure

Your answers should not occupy more than 10 (ten) sides of A4 paper. You must acknowledge all pictures and give full references. Please submit your answers to me by electronic mail using the PDF document format (please check before submission that it can be opened in the current version of Acrobat Reader)

Your assignment must reach me on or before **Monday 23 December 2011**

Please ensure that in the email *subject line* you commence with **London PG Course Detectors** otherwise I might delete it as Spam. For the same reason please do not include any punctuation marks in the subject line or our mail filter may reject it!

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¹ Phys. Rev. D **82** (2010) 12004