

High Energy Physics - Experiment

B Physics and Quarkonia studies with early ATLAS data

Erez Etzion (for the ATLAS Collaboration)

(Submitted on 21 Jan 2010)

Quarkonia and B-Physics are among the first areas to be investigated with the first data collected by ATLAS. The ATLAS detector at CERN's LHC is preparing to take data from proton-proton collisions expected to start by the end of 2009. Investigation of the decay of B-hadrons represents a complementary approach to direct searches for Physics beyond the Standard Model. Early B-physics data will provide valuable information on the detector performance, as well as allow calibration studies in support of new Physics searches. Meaningful quarkonia studies performed with early data are expected to have the reach to make authoritative statements about the underlying production mechanism and provide cross-sections in this new energy regime. We review various aspects of prompt quarkonium production at the LHC: the accessible ranges in transverse momentum and pseudo-rapidity, spin alignment of vector states, separation of color octet and color singlet production mechanism and feasibility of observing radiative χ_c decays

Comments: Proceedings of the Fourth High-Energy Physics International Conference HEP-MAD 09, Antananarivo, Madagascar, August 21-28, 2009

Subjects: **High Energy Physics - Experiment (hep-ex)**

Report number: ATL-PHYS-PROC-2010-006, TAUP 2909/09

Cite as: [arXiv:1001.3806v1](https://arxiv.org/abs/1001.3806v1) [hep-ex]

Submission history

From: Erez Etzion [[view email](#)]

[v1] Thu, 21 Jan 2010 14:05:08 GMT (92kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PostScript](#)
- [PDF](#)
- [Other formats](#)

Current browse context:

hep-ex

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1001](#)

References & Citations

- [SLAC-SPIRES HEP](#)
([refers to](#) | [cited by](#))
- [CiteBase](#)

Bookmark([what is this?](#))



Link back to: [arXiv](#), [form interface](#), [contact](#).