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**Studies of initial state gluon radiation in Drell-Yan events at the LHC** K. YAMAMOTO, Iowa State University and Brookhaven National Laboratory, ATLAS COLLABORATION — Initial State Radiation (ISR) primarily consists of gluons radiated before the hard interaction. The uncertainty in the model of ISR in the Monte Carlo simulation is a source of systematic uncertainty for many measurements at the LHC. In order to study ISR, Drell-Yan events are suitable because the Drell-Yan process has a leptonic final state that is not sensitive to final state gluon radiation. We present a method to determine systematic uncertainties due to ISR by comparison of Monte Carlo simulated Drell-Yan events to future data, expected from the initial run of the ATLAS experiment in 2010.

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