Search for a heavy gauge boson \( W' \) in the final state with an electron and large missing transverse energy in \( pp \) collisions at \( \sqrt{s} = 7 \) TeV

DARREN PUIGH, Cornell University, CMS COLLABORATION — A search for a heavy gauge boson \( W' \) has been conducted by the CMS experiment at the LHC in the decay channel with an electron and large transverse energy imbalance, using proton-proton collision data corresponding to an integrated luminosity of \( 36 \) pb\(^{-1} \). No excess above standard model expectations is seen in the transverse mass distribution of the electron-(missing \( E_T \)) system. Assuming standard-model-like couplings and decay branching fractions, a \( W' \) boson with a mass less than \( 1.36 \) TeV/c\(^2 \) is excluded at 95\% confidence level.

Greg Landsberg
Brown University

Date submitted: 13 Jan 2011

Electronic form version 1.4