

Abstract Submitted  
for the APR08 Meeting of  
The American Physical Society

**Measuring the transverse position of forward neutrons at the Large Hadron Collider**<sup>1</sup> NAVID TERHANI, ARADALAN DEHDASHT, University of Kansas, CMS COLLABORATION — One way to study the quark-gluon matter produced in heavy ion collisions is to measure the deflection of very forward neutrons. In CMS this can be achieved with the Zero Degree Calorimeters, ZDCs, if we add a hodoscope of cerenkov or silicon detectors. The ideal position for such a detector is at shower maximum, i.e. the point where the number of secondary particles produced by the incoming neutrons is greatest. Fortunately for us this point is between the electromagnetic and hadronic parts of the ZDCs. Such an upgrade must be very compact and robust. I will describe a possible design for such a detector based on an 8\*8 grid of 1cm tiles and a multi-anode PMT. I will present a model of such a detector and give estimates of its performance.

<sup>1</sup>DOE Office of Science and National Science Foundation.

Michael Murray  
University of Kansas

Date submitted: 01 Apr 2008

Electronic form version 1.4