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Derivation of the Geometry of PbPb Collisions at 2.76 TeV Using Correlations between the Zero Degree Calorimeter Signal and Pixel Multiplicity JEFF WOOD, Compact Muon Solenoid — The geometry of PbPb collisions is derived using correlations from the zero degree calorimeter (ZDC) signal and pixel multiplicity at the Compact Muon Solenoid (CMS) Experiment using data from the heavy ion run in 2010. The method to derive the geometry takes the two-dimensional correlation between the ZDC and pixels and linearizes it for sorting events. A comparison to the current derivation of this geometry from the energy deposit in the forward hadronic calorimeter (HF) to the correlations in the ZDC versus pixels is made. This comparison highlights the similarities between the results of both methods in collisions with large nuclear overlap, as expected, and deviations in the results in collisions with smaller nuclear overlap.

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