Analyses of the CMS ECAL+HCAL Test Beam Data and Jet Reconstruction

KAZIM GUMUS, HEEJONG KIM, Texas Tech University, LISA BERNTZON, CERN, NURAL AKCHURIN, Texas Tech University, SUNG-WON LEE, Fermi National Accelerator Laboratory, RICHARD WIGMANS, Texas Tech University, CMS COLLABORATION — We present the combined response of the CMS calorimeters to a variety of particles in the momentum rage of 1 to 350 GeV/c. Based on these measurements, obtained in 2006 at CERN’s H2 beam line, we reconstruct the overall jet response of these calorimeters and apply them to the first day physics analyses of the CMS experiment at the Large Hadron Collider (LHC) which is scheduled to start this year. We discuss in detail the response differences to different single particles, optimization of the energy resolution of the combined calorimeter systems and the expected jet response and energy resolution.