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**Measurement of reaction-plane correlations in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV within a multi-phase transport model** PENG HUO, JIANGYONG JIA, Stony Brook University — In heavy ion collisions the initial geometry fluctuations can be studied using the measured harmonic flow coefficients  $v_n$ . Further information on these fluctuations can be obtained by measuring the correlations between the reaction plane angles  $\Phi_n$  of different orders. Using a multi-phase transport (AMPT) model for Pb+Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV, we present a study of the correlations between  $\Phi_n$  of different orders. Various correlators are built between two and three reaction planes. These correlations are estimated from correlations between event-plane angles  $\Psi_n$  with a resolution correction accounts for the dispersion from  $\Psi_n$  relative to  $\Phi_n$ . Results are compared with the ATLAS measurements and show good consistency for two plane correlations. These simulation results can help provide a good insight into the the experimental measurements.

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