

# Measurement of the coefficients and correlations between higher-order flow harmonics with the ATLAS detector

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Recently, the study of harmonic flow coefficients  $v_n$  has been the focus of many experimental efforts in heavy-ion collisions at RHIC and the LHC. These coefficients are believed to be associated with the various shape components in the initial geometry, arising from fluctuations of the participating nucleons in the overlap region. The orientation of these harmonic flow (event plane or  $\Psi_n$ ) are generally correlated due to the correlations between the original shape components in the initial geometry. We present detailed measurements of coefficients  $v_1$ - $v_6$ , obtained from event plane, two-particle correlation and cumulant methods, as well as measurements of various event plane correlations involving  $\Psi_2$  to  $\Psi_6$  in Pb-Pb collisions. We discuss the implications of these results on our understanding of the nature of the initial geometry, and on the dynamical evolution of the medium.

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