

# Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



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## Anisotropic flow fluctuations of charged and identified hadrons in Pb-Pb collisions with the ALICE detector

*Tuesday 5 November 2019 10:00 (20 minutes)*

Anisotropic flow fluctuations can be used to probe the properties and evolution of the system created in heavy-ion collisions. In this talk, we present the first  $p_T$ -differential measurements of the first and second order moments of  $v_2$  probability density function (PDF), extracted from a comprehensive set of light-flavor hadrons. In addition, we also present higher order moments, skewness and kurtosis, as a function of  $p_T$  and centrality for unidentified charged hadrons. Finally, we discuss the  $p_T$ -differential measurements of charged hadrons'  $v_2$  with 2-, 4-, 6- and 8-particle cumulants in context of the underlying PDF.

We report the measurements of  $\pi^\pm$ ,  $K^\pm$ ,  $p$  +  $\bar{p}$ ,  $+$ ,  $^\pm$ ,  $^\pm$ ,  $\phi$  and inclusive charged hadrons  $v_n$  fluctuations, measured in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV using multi-particle cumulants with the ALICE detector. Measurements are performed in central pseudorapidity region  $|\eta| < 0.8$  and cover a wide transverse momentum range. The implications of our results for understanding of the properties of the medium will be discussed.

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