



Contribution ID: 247

Type: Oral presentation

## Study of collectivity in small systems via two-particle azimuthal correlations using high- $p_T$ jets and quarkonia in pp and pPb collisions with the CMS detector

*Wednesday 6 April 2022 15:20 (20 minutes)*

The creation of fluid-like quark-gluon plasma in small collision systems has been investigated via elliptical azimuthal anisotropy of emitted particles in these interactions. A novel search for QCD collective effects in hard probes is presented using high- $p_T$  jets in 13 TeV pp collisions at CMS. Studies of short- and long-range azimuthal correlations inside a jet produced with very high-multiplicity charged daughters are presented, where the system is rotated to a new “jet frame” with the high- $p_T$  jet direction being the beam z axis. We also report the first measurement of the azimuthal anisotropy for the  $\Upsilon(1S)$  meson in pPb collisions at 8.16 TeV. The dimuons used to reconstruct the  $\Upsilon(1S)$  meson are coupled with charged hadrons using the long-range two-particle correlation method. The results are discussed in terms of collectivity and modification of bottom quarks.

**Author:** CMS**Presenter:** LEE, Kiso (Korea University (KR))**Session Classification:** Parallel Session T05: QGP in small and medium systems**Track Classification:** QGP in small and medium systems