

# 11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 290

Typ: Talk

## Jet Measurements with PHENIX

Mittwoch, 29. März 2023 14:20 (20 Minuten)

Reference measurements in p+p collisions are crucial for understanding jet quenching. PHENIX has a suite of new jets measurements in p+p collisions: fragmentation function, transverse momentum,  $p_T$  distribution, the radial profile, and splitting functions.

Jet quenching effects can also be studied with high momentum hadrons and two-particle correlations. The distribution of hadrons opposite a high  $p_T$   $\pi^0$  or photon in Au+Au collisions, reveals how the distribution of hadrons within the opposing jet is modified compared to that in p+p collisions. PHENIX has measured  $\pi^0$ -hadron and  $\gamma$ -hadron angular correlations in Au+Au and p+p collisions with detailed measurements that probe the angular distribution of the modifications.

To fully quantify the quenching effects in heavy ion collision, we must also understand potential modifications in smaller collision systems. Previous PHENIX measurements of jets and  $\pi^0$ s in d+Au collisions revealed possible modifications when dividing the measurements into different event multiplicity or centrality classes. Updated reconstructed jet measurements and the use of direct photons to study possible biases in the event selection suggest that while peripheral d+Au collisions are consistent with expectations from p+p collisions, some suppression in the most central d+Au events may still exist.

The talk will summarize the latest PHENIX jet-related measurements in p+p, d+Au, and Au+Au collisions.

### Experiment/Theory

PHENIX

### Affiliation

Vanderbilt

**Hauptautor:** VELKOVSKA, Julia (Vanderbilt University)

**Vortragende(r):** VELKOVSKA, Julia (Vanderbilt University)

**Sitzung Einordnung:** Parallel: Jets and their modification in QCD Matter

**Track Klassifizierung:** Jets and their modification in QCD matter