

CENTRALITY ISSUES IN ASYMMETRIC COLLISIONS: DIRECT PHOTONS TO THE RESCUE?

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While collision centrality for large heavy ion systems is well defined both theoretically and in the experiments, the same is not true when very asymmetric systems (like p/d+A) collide. In light of some surprising and in part contradictory results on the centrality dependence of certain observables in p/d+A collisions that emerged since 2012 from RHIC and LHC, the very concept of the geometrically inspired centrality gave way to "event activity". Several phenomenological models try to explain the counterintuitive results, but convincing experimental tests of the diverging concepts are so far missing. We will discuss how the simultaneous measurement of the "centrality" dependence of high and low transverse momentum direct photons (pQCD and "thermal") in p/d+A collisions can help to break the impasse.