XXIV QUARK MATTER
DARMSTADT 2014

Contribution ID: **214** Type: **Poster**

Effects of shower patrons on soft and semihard hadrons produced in Pb-Pb collisions at LHC

Tuesday, 20 May 2014 16:30 (2 hours)

The transverse momentum distributions of identified hadrons produced in Pb-Pb collisions at the Large Hadron Collider (LHC) are studied for p_T up to 20 GeV/c. We use quark recombination to treat hadronization, applied uniformly at all p_T based on a common thermal parton distribution of light and strange quarks and on shower patrons emitted in hard and semihard jets. Furthermore, we improve the treatment of momentum degradation. Since we aim to confront the p_T spectra at mid-rapidity of all observed hadrons, π, K, p, Λ, Ξ, ϕ and Ω, the system is highly contained. There are thousands of soft hadrons and hard jets produced in Pb-Pb collisions at 2.76 TeV. Minijets can fragment into soft patrons with multiplicities so high that their effects on the patrons created in the soft interaction of the bulk can't be ignored. So the primary feature of our work is to quantify the effect of hard and semihard jets on the soft sector. What we find is that the soft patrons generated by the hard patrons are so overwhelming at LHC, compared to the situation at RHIC. It becomes clear that the hadronization problem at LHC is drastically different from that at RHIC.

Primary author: ZHU, Lilin (Sichuan University)

Co-author: HWA, Rudolph

Presenter: ZHU, Lilin (Sichuan University)

Session Classification: Poster session

Track Classification: Jets