ALICE

Weekly Report

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Outline

- Instalacion de programas para la nueva mac
- Sobre HotQuarks2016
- Sobre el paper de Jets, Pythia vs EPOS
- Conclusions

- Sobre HotQuarks2016
  http://hq2016.bnl.gov/

Se inscribio resumen
Klaus Kinder-Geiger Award to the best talk
Fee USD 500 (cubre hospedaje,comidas,proccedings)

Abstract

Disentangling the non-radial flow effects in small systems

11/6/2016 0:31
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Submitted

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Summary

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The study of high multiplicity events in small collision systems like pp, has become crucial due to the recent results of the experiments at the LHC. Where Quark-Gluon Plasma signatures like: flow, long range angular correlations and the so-called strangeness enhancement; have been observed in such systems. It has been reported in Pythia that, colour reconnection produces radial flow-like patterns via boosted colour strings in pp collisions. Now, we investigate jets as a source of fake radial flow. To disentangle the fake flow effects due to jets, the evolution of the transverse momentum (p_T) spectral shapes with both event multiplicity and leading jet p_T is studied using the Blast-Wave model. For the jet reconstruction we used the anti-k_T algorithm implemented in FastJet 3.1.3. Proton proton collisions at $\sqrt{s}$ =7 TeV were simulated using two MC generators, Pythia 8.212 and Epos 3, where Epos includes 3D+1 hydrodinamics in the calculations. The comparison of both models shows an important difference, namely, in Pythia high p_T jets play a crucial role to produce radial flow-like patters, whereas, in EPOS radial flow shows little or none dependence with leading jet p_T. The results suggest that this is a powerful tool for learning about the origin of collective-like phenomena in small systems.

- Sobre el paper de Jets Pythia vs EPOS3

Se hizo correcciones, se agrego mas referencias, reescritura de algunas frases.

Se la envie a Antonio para revision, el hoy viaja a Ginebra

Jet effects in models with Relativistic Hydrodinamics and Color Reconeection.

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Abstract

Here we use the event generators EPOS3 and Phytia8.2 in order to study the effects of jets in high multiplicity pp events. Differents observables has been studied for events with and without jets structure, the algorithm anti-k_T was implemented in FastJet for the jet reconstruction. Some observables to be discused are: the proton-pion ratio, the invariant yield of light flavor particles, and also the analysis of the Blast-Wave (BW) parameters; this are studied in fuction of the event multiplicity and the hardness of the event. A comparison of both models shows that, in the BW analysis a clear separation between jets and no jets is found for Pythia8.2, contrary to EPOS3 were clear dependence on the multiplicity was found.

Keywords: `Jets, Color Reconecction, Hydrodinamics, Pythia8, EPOS`

1. Introduction

The study of high multiplicity events in pp collisions has become important due to the recent results of the experiments at LHC and RHIC. Where radial flow signals[1, 2, 3], long range angular correlations[4, 5] and the strange particles production enhacement[6, 7, 8], had been reported for the small systems formed in pp, pPb and PbPb collisions at high multiplicity, giving evidence of sQGP-like features (ridge-like and flow-like behavior), some other results in this smalls systems[9, 10, 11], also apport clues to the understanding of the phenomena, thus like; some models[12, 13, 14, 15, 16, 17, 18, 19] tries to explain some features of this stage of the hadronic matter. The origin of this phenomena still under discussion.

Some hydrodinamical models[20] reproduce the flow behaviour, but also some other models without hydro-inspiration find flow-like effects[19][13] attributable to other mecanisms and collective effects such as Multi Parton Interactions (MPI)[21, 22], color reconnections (CR)[23], where the last, shows an enhacement of the sometimes refered[13, 24] as "flow peak": the proton to pion ratio, also other effects as the underlying events[15] must also be taken into account to understand this effects.

In high multiplicity collective fenomena has been seen [25, 26], for example; in central collisions between spherical nuclei, the initial state is symmetric in azimuth implying an isotropic azimuthal distribution of

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