



Contribution ID: 565

Type: **Poster Presentation**

## **Analysis of the Tsallis distribution and its applicability to high energy physics**

*Wednesday, 10 July 2013 17:40 (1 hour)*

### **Abstract content <br> &nbsp; (Max 300 words)**

The region of soft collisions in nucleon-nucleon interactions occurs in the region of non-perturbative QCD. As such, there are numerous phenomenological models present which attempt to describe various aspects of these collisions. The transverse momenta, distributions for charged particles at  $\sqrt{s} = 900\text{GeV}$ , and  $K$  and  $\phi$  particles at  $\sqrt{s} = 7\text{TeV}$ , for p-p collisions obtained from the ALICE experiment at the LHC were fitted using the Tsallis distribution using three parameters, namely  $T$ ,  $q$  and  $R$ . The fits performed to these sets of data were found to be extremely satisfactory. However for Pb-Pb collisions the Tsallis distribution did not perform as well due to the necessity to incorporate hydrodynamical considerations related to heavy-ion collisions, which are not incorporated in the distribution.

### **Apply to be<br> considered for a student <br> &nbsp; award (Yes / No)?**

No

### **Main supervisor (name and email)<br>and his / her institution**

Professor Jean Cleymans

### **Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?**

No

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