Multiplicity dependence of strange and multi-strange particle in jets in pp collisions at $\sqrt{s} = 7$ TeV

authors

Abstract

1 Introduction

In heavy-ion collisions at ultra-relativistic energies, it is well established that a strongly coupled Quark-Gluon-Plasma (QGP) is formed [1–5]. Recent measurements in high multiplicity pp, p–A and d–A collisions at different energies have revealed strong flow-like effects even in these small systems [6**?** –14]. The origin of these phenomena is debated [**? ? ? ? ? ? ? ?**].

The multi-strange baryons, Ω (sss) and Ξ (dss), are particularly important in high energy particle and nuclear physics due to their dominant strange quark (s-quark) content. The initial state colliding projectiles contain no strange valence quark, therefore all particles with non-zero strangeness quantum number are created in the course of the collision.

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