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Baryon charge transfer in proton reactions: baryon asymmetry at LHC, String Junction trajectory intercept and SJ torus as DM candidate.

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The asymmetry of baryon/antibaryon production has been measured in many proton-proton, pion-proton and electron-proton experiments. In the framework of Quark-Gluon String Model the energy dependence of asymmetry tells us about the value of \alpha_{SJ}(0), the intercept of String Junction Regge trajectory. This object (SJ) transfers the baryon charge from proton projectile into the central rapidity region at high energy proton interactions, while the diquarks used to bring this access of positive baryons to Y=0 point in the reactions of intermediate energies. In previous MQGS description of dozen experimental results the value of intercept has been estimated as 0.5 < \alpha_{SJ} < 0.9. Now String Junction behaviors are accumulated in toy symmetrical model in order to build an object with zero baryon charge. The important effect was discovered that baryon junctions are easily combinable with antibaryon ones only on torus surface due to three gluon connections. The object has discrete number of baryon/antibaryon junctions. This single parameter reveals the mass or energy of the object. It looks like DM particle, is not it? How often appears this “compactificated” pomeron string in multiparticle production at LHC energy? As it has been calculated in recent paper, it goes approximately in 1.2 % of inelastic events. More, the torus configuration of QCD matter, which has been found by Chandra experiment right on the event horizon of supermassive Black Holes, must be so dense “donuts” that roentgen radiation from BH is screened on 40%. By the way, we know that QCD matter falling under BH horizon should be symmetric, or in other words, has no charge information. This toy model seems very realistic and can help us to deal with an “arm-wrestling” of QCD and gravitation singularity at extremely high masses.

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