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## The proton structure and particle production

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In the last years the matter distribution inside the proton has become an important topic discussed by the international community. After the measurement of the proton mass and scalar radius, which revealed the extent of its gluon distribution, one important question remains: what is the shape of matter distribution inside it? One possible answer, which will be explored in this work, is the baryon junction configuration. In this picture, the quarks are joined by an “Y” shaped gluon string. In this work we make an Ansatz for this anisotropic structure, which can be separated into gluon and quark distributions, and use it as an initial condition for Monte Carlo event generators. After setting the initial conditions, we investigate the effects and consequences of the baryon junction on particle production.

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