

Charge distribution inside strange baryons in impact parameter space and transverse coordinate space.

To portray the internal structure of low-lying octet baryons, the understanding of the intrinsic properties of their building blocks i.e., quarks and gluons is indispensable. We present the study of spatial distribution of quark charges via generalized parton distribution in the impact parameter space. This structural anatomization is carried out by making the use of quark-scalar diquark model of hadrons in which feasible pairs of quark-scalar diquark has been considered to understand the behavior of each constituent quark of baryon. By transforming the light-front wave functions in coordinate space, we have also presented the charge distribution of quarks in transverse direction. This aids in the analyses of the distinct behavior of the charge distributions in both kind of spaces. We examine the charge distribution of octet baryons, one of the isospin partners of Σ and Ξ to observe the reliance of charge distribution on the presence of strangeness content in baryon.

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