World Academy of Science, Engineering and Technology
International Journal of Physical and Mathematical Sciences
Vol:19, No:02, 2025

The Strong Interactions among the Protons

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Abstract : This paper presents empirical evidence validating the Lorentz transformation of rotational frames for both inside critical cylinder (ICC) and outside critical cylinder (OCC) configurations, as well as the corresponding transformations of associated physical quantities. These transformations have been applied to derive the electromagnetic field parameters of a spinning charged particle. In our analysis of a two-proton system, we have not only uncovered strong interactions that are 238 times stronger than the electrostatic force but also elucidated the mechanisms underlying its stability and self-sustaining nature. Notably, this strong interaction manifests exclusively at distances on the order of □10 □^(-15)meters, consistent with the known range of the strong nuclear force. Furthermore, we have extended our analysis to multi-proton systems, specifically examining configurations containing four to seven protons. For these more complex systems, we have derived the strong interaction forces, providing insights into the nuclear dynamics of larger atomic nuclei. Our findings offer a more comprehensive understanding of the nature of strong interactions among protons. This work may have significant implications for advancing our knowledge of nuclear structure and stability and could potentially bridge the gap between electromagnetic and strong nuclear forces within a unified theoretical framework.

Keywords : special relativity, Lorentz transformation, strong interactions, particle spin
Conference Title : ICPEP 2025 : International Conference on Physics and Engineering Physics
Conference Location : Tokyo, Japan
Conference Dates : February 24-25, 2025