## **The Historical Limitations**

of

## Quark Model and Quantum Chromo Dynamics (QCD)

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**Abstract:** According to the background of propose and establish, analysis And points the historical limitations of Quark Model and Quantum Chromo Dynamics (QCD)

## **MAIN VEIWPOINT & CONCLSION:**

In nuclear physics and particle physics, the strong interactions (nuclear force) is generated by  $\pi$ -mesons and play a role (whether it is "exchange" or "share"), therefore,  $\pi$ -mesons is the only intermediate nuclear forces or small parameter the only basic small parameter, so, in the nucleus, there must  $\pi$ -mesons (which is a must, otherwise, the nuclear force will not exist).

In nuclear physics and particle physics, an atomic nucleus composed only by two nucleons which of "neutrons" and "protons" (there is no third nucleon), in the nucleon's levels, there is no any others nucleon besides "neutrons" and "protons".

Basing on the above two points: in a nucleus, there must be exist  $\pi$ -mesons, but these  $\pi$ -mesons are not (not allowed) in the levels (scales) equals of nucleons.

Does not exist outside of space; so, inform the nucleons internal potential, development, and additional quark-level seats, and  $\pi$ -mesons and nucleons are defined by the decomposition of quarks, creating living space for  $\pi$ -meson and neutrino, then there is a Quark Model and Quantum Chromo Dynamics (QCD).

In the whole, The Quark Model and Quantum Chromo Dynamics (QCD), Is a kind of exploration which in the unclear of the hadrons and nucleons structure and properties; the structure and properties of the  $\pi$ - meson; and the relationship between  $\pi$ -meson and nucleons in structure (in particular, a  $\pi$ -meson is a part of a neutron; no relations with a proton).