

# Unified field theory and topology of atom

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**Abstract:** The paper "Unified Field Theory and the Configuration of Particles" opened a new chapter of physics. One of the predictions of the paper is that a proton has an octahedron shape. As Physics progresses, it focuses more on invisible particles and the unreachable grand universe as visible matter is studied theoretically and experimentally. The shape of invisible proton has great impact on the topology of atom. Electron orbits, electron binding energy, Madelung Rules, and Zeeman splitting, are associated with proton's octahedron shape and three nuclear structural axes. An element will be chemically stable if the outmost s and p clouds have eight electrons which make atom a symmetrical cubic.

Keywords: Unified Field Theory, Quantum Field Theory, Standard Model, Zeeman Effects, Madelung Rules

#### 1. Introduction

Unified Field Theory (UFT) [1-8] predicts that a proton has an octahedron [1] shape. The positive electronic charge forces from nuclei are vertical to the faces of the octahedron. The electrons of an atom are interacting with the tri-axes of the protons.

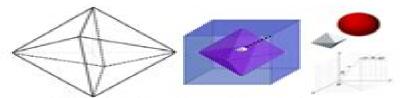


Figure 1. Octahedron Proton and Electron Movements

Two electrons with mirrored moving direction and speed at the opposite side of the nucleus are paired electrons. The pairing increases the structural stabilities of nucleus. The ground state electrons in an atom will first meet pairing requirements before taking a new orbit.

Three axes of octahedron proton bounce back the electron's

mass wave and create triangle grid wave pattern. The electron "orbits" are nodes on the grids. Each node maps to a Zeeman splitting line. When electrons on nodes along the central line of the triangle wave pattern have positive spin, the Zeeman splitting lines go downward when strong magnetic field strength increases, otherwise, Zeeman splitting lines go upward.

Madelung rules can be explained by the propensity based on main orbit number plus azimuthal distortion times the interactive forces acting on axes of proton. The exceptions of the rule are results of unsymmetrical nuclear topological bases.

A simple experiment is designed to demonstrate the diamond grid interference pattern. A cameorder, and squared water backet can be used to perform such experiment.

#### 2. Results

#### 2.1. Electron Movements

If the proton is in octahedron shape [2], the face of octahedron proton not only gives nuclei their topologies [2], but also carves the configuration of electrons. One of the issues associated with Schrödinger equation is that the equation does not consider the topology of the nuclei as nuclear structure is not "clear". In UFT [1-4], the waves are

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