

Abstract Submitted  
for the 4CF10 Meeting of  
The American Physical Society

**A New Nuclear Lattice Model Based on Quark Interactions**

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— A new nuclear model is proposed based on the three-quark structure of nucleons, which form triangular “ovoids.” Nucleons combine via a set of rules: the strong/color force between quarks holds protons and neutrons together subject to the exclusion principle. Electric and magnetic forces between quarks attract or repel to determine lattice alignment of nucleons. Magnetic dipoles lock protons and neutrons into specific structural positions which determine the overall spin of an isotope. Mechanical balance and volume minimization are other important factors. The model describes the buildup of all stable and unstable nuclei in stages. The deuteron has the shape of a triangular prism, the alpha a hexagonal prism. In this lattice model protons are only nearest neighbors to neutrons and next-nearest neighbors to protons. Zome constructs are used to build “tinker-toy-like” physical models to aid visualization. Carbon-12 forms a ring structure of three interconnected alpha particles. The model is further discussed at [unclear2nuclear.com](http://unclear2nuclear.com).

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Date submitted: 10 Sep 2010

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