Laws of Nuclear Shapes

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Two Laws of Matter from 2017

- Carbon and heavier atoms center on a **cubic** stack of nucleons

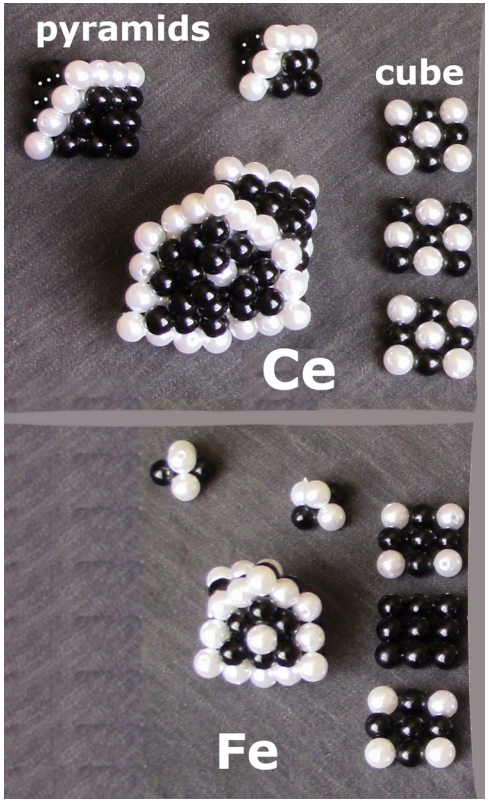
- Protons touch protons to make **lines of protons**

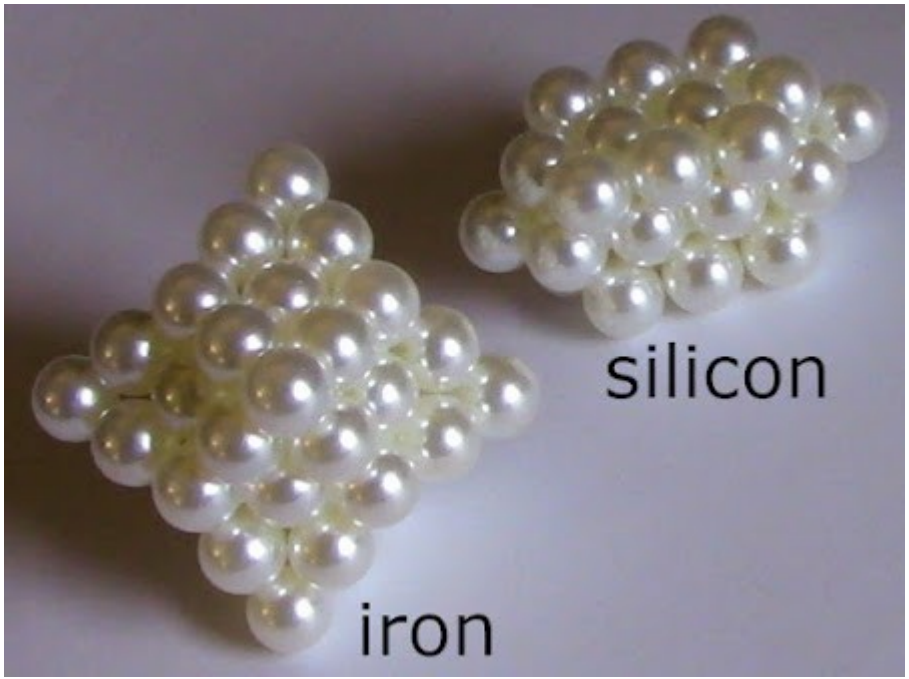
2 of 19 foundation elements: cerium and iron

Simply a cube and 6 pyramids. Add more nucleons on surfaces for 90 incremental elements

Black neutrons
white protons

Hexagonal close-pack (HCP) surfaces have small gaps, for survival





White protons and white neutrons

Consequences of the first two Laws of Matter

Cubic nuclear core Law:

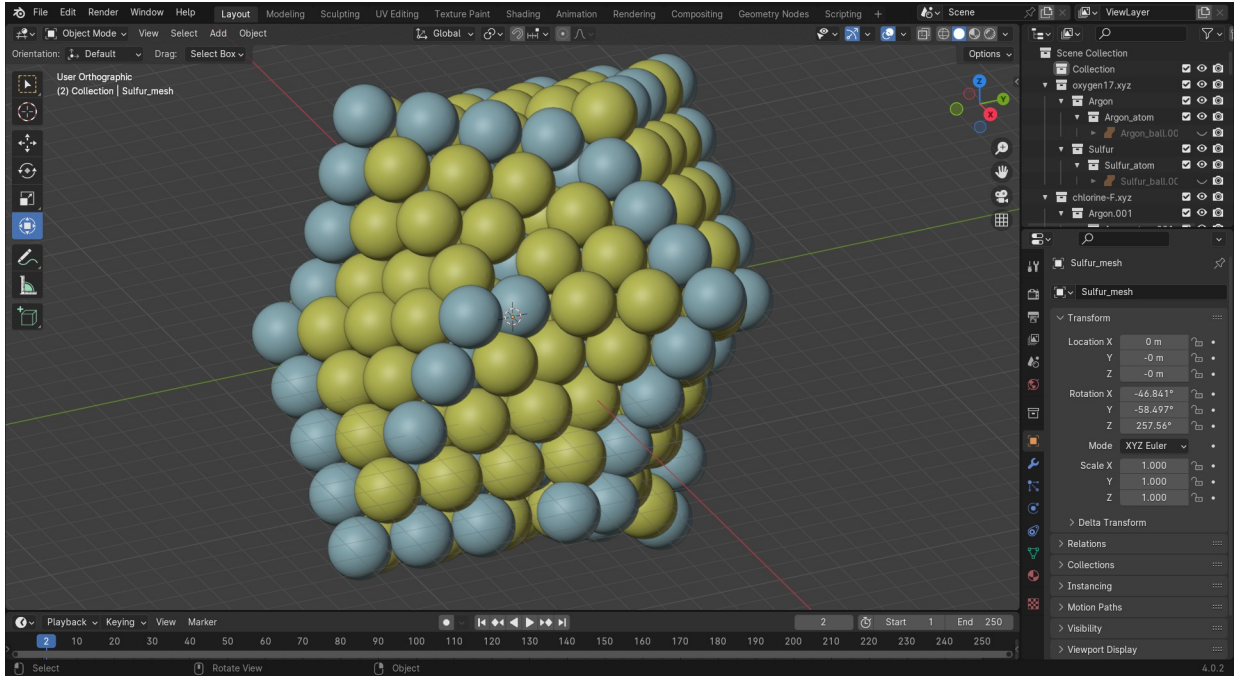
- A cubic core produces the HCP nuclear surface
- The HCP surface allows most elements survive a trillion years

Lines of protons Law:

- Lines can be long in heavy elements, so few lines occur
- Chemical bonds usually start at the ends of proton lines
- Valence up to 8 due to the maximum of 8 ends of lines

Heavy Ions

Most elements use cube-3



Oganesson element 118 uses cube-4

Digital models of all elements are available

Goals for QCD and Static Nucleus Theory

- **Ambitious goals can unify gravity and atomic shapes**

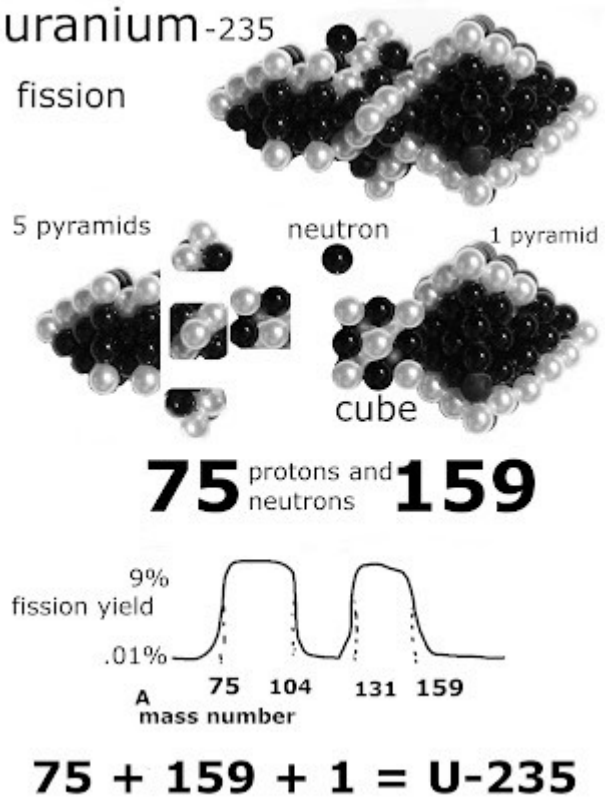
- **Newton's constant related to proton Volume, mass, 5ns time**

  $G = V / (2 \pi \tau m \text{ second})$

- **Inside a heavy nucleus, time is denser**
- **Strong nuclear force can be gravity, by the chain rule**

Uranium fission fragments

Bi-modal mass distribution is due to the shape of U



The large fragment is from the cube plus a pyramid.

Wrong Shape Theory Debates

- **Magic numbers** of nucleons cause phenomena
- **Helium clusters** make oxygen and heavier elements
- Most nuclei are **spherical**
- **Quarks** must be perfected before nuclear shapes may be tried

I claim the correct theory of nuclear shapes

- **A correct theory gives correct-seeming results quickly**
- **Incorrect theories give correct-seeming results rarely**
- **19 Rules of nuclear shape in my book from 2022**
- **Charge distributions on the nuclei 535 pages on all elements by Alan Folmsbee**

Heavy ion nuclei

Platinum

Tantalum

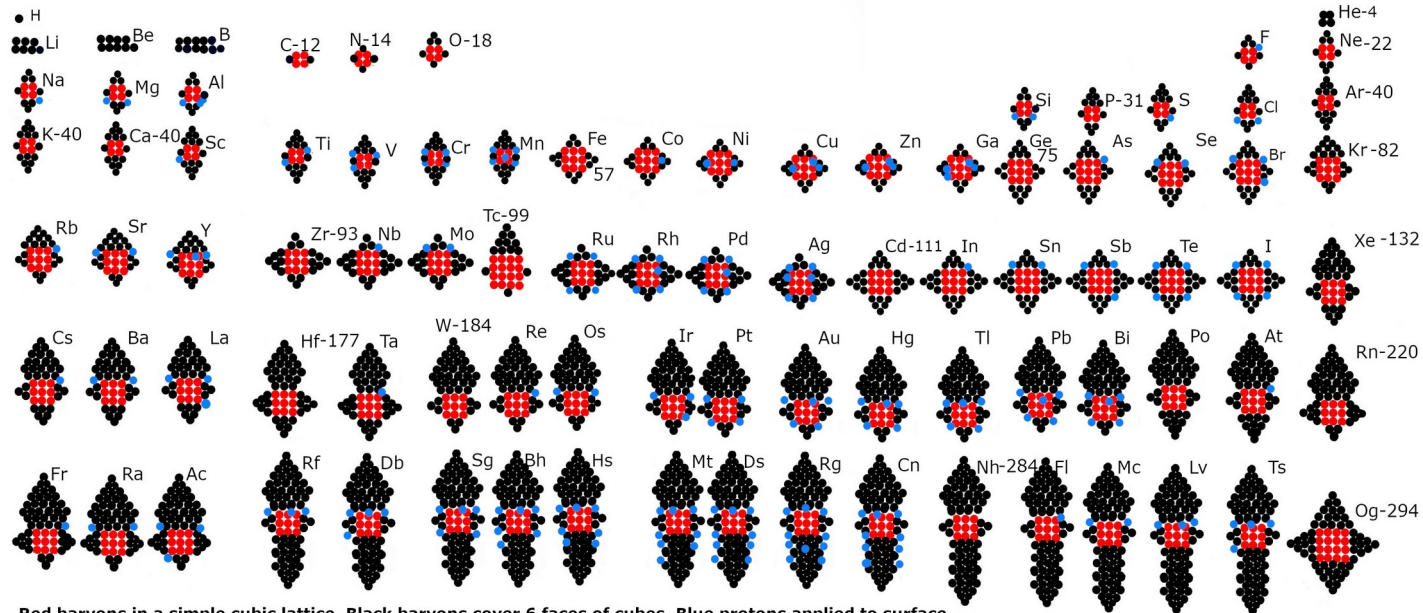
Leadership of Science

- Static Nucleus Theory of the Face-Armored Cubic Lattice Iron shape was proposed on May 25, 2017 in Maui, Hawaii

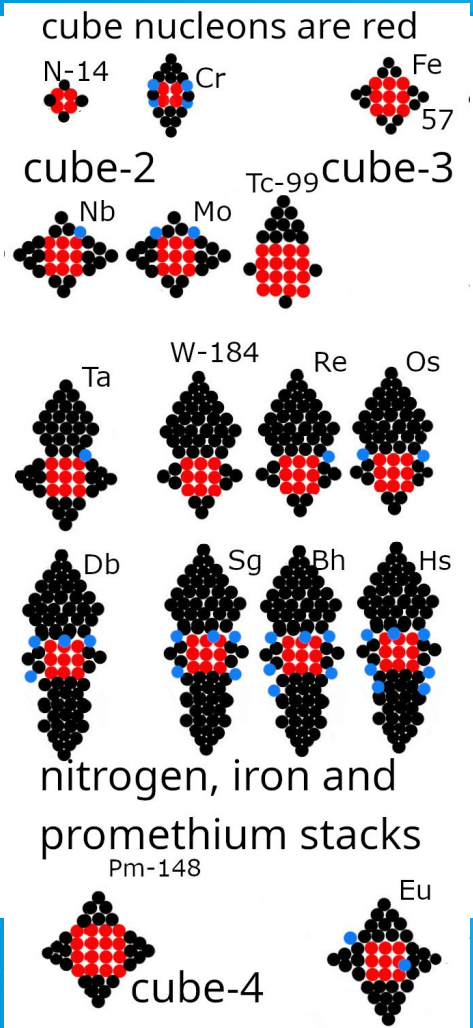
- **Electrons drive protons** to join lines of protons in stars

- Experiment plan for iodine neutron spins for memoglobin
- Memoglobin proposed for nerve memory and origin of life

Periodic Table of Nuclear Shape Plans



Inductive reasoning: N, Fe, Pm



Iron was the first element that I evaluated: cube-3 and pyramid-2

$$A = 57 = 3^3 + 6*(2^2+1)$$

Nitrogen is the smaller shape-analog of iron: cube-2 and pyramid-1

$$A = 14 = 2^3 + 6*(1)$$

The analogy was extended to cube-4 and pyramid-3

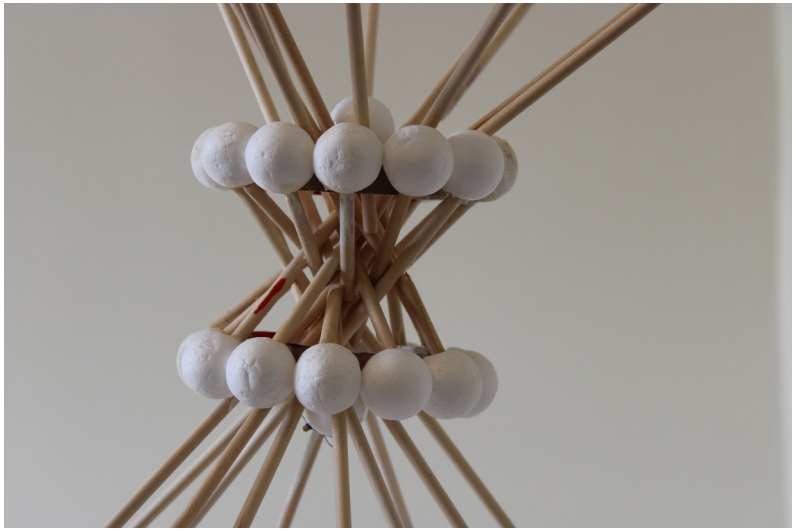
$$A = 148 = 4^3 + 6*(3^2+2^2+1)$$

Promethium-148 was discovered to be the analog of iron-57.
The radioactivity of Pm seems to be caused by the cube-4.

Proof and Imagination

- **Water bond angle arccosine(-1/4) = 104.48 degrees**
- **Ferromagnet-class from proton ring flux confluence**
- **Electrons penetrate nuclear rings more than I expected**

Oxygen



Simplified iron
With 24 flux lines

Contact Information

- Alan Folmsbee telephone 1-808-269-8893

- Let’s do lunch Monday, March 16, 2026 in Denver

- Email folmsbee@protonmail.com

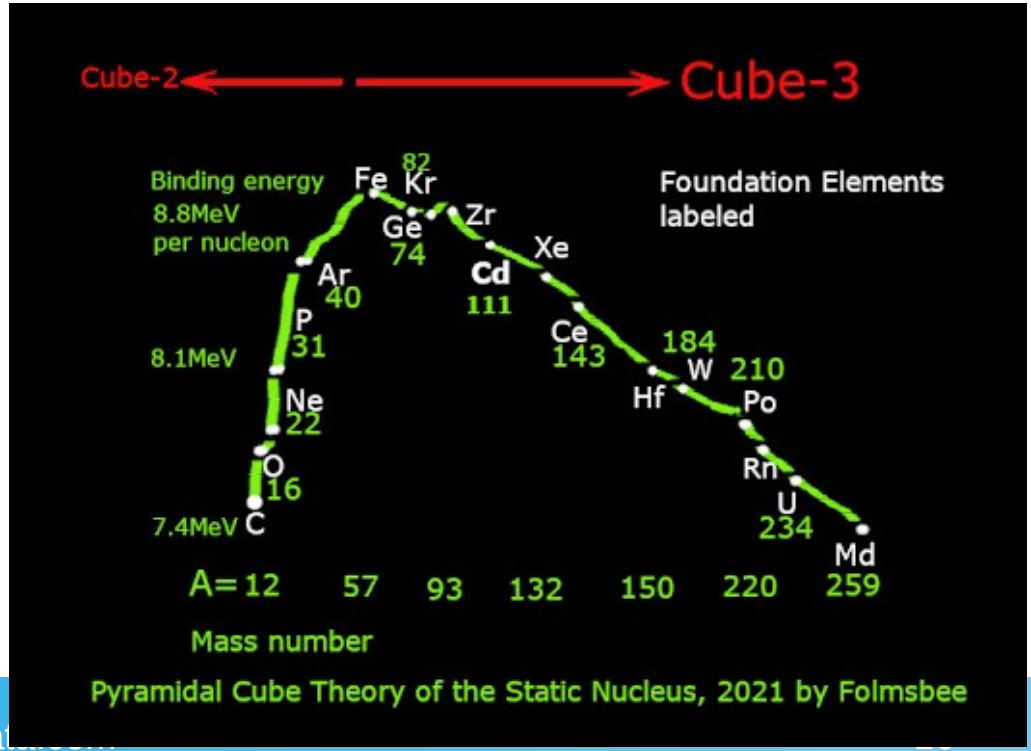
This presentation is in the highlights page of:

- Website nuclear-data.com

Benefits of knowing the cube size

Graph based on

- **https://www.britannica.com/science/nuclear-binding-energy**
- **Average binding trends**
- **Porous argon nuclear shape**
- **Smooth iron nuclear shape**
- **19 foundation element shapes**
- **Slope is shape-dependent**

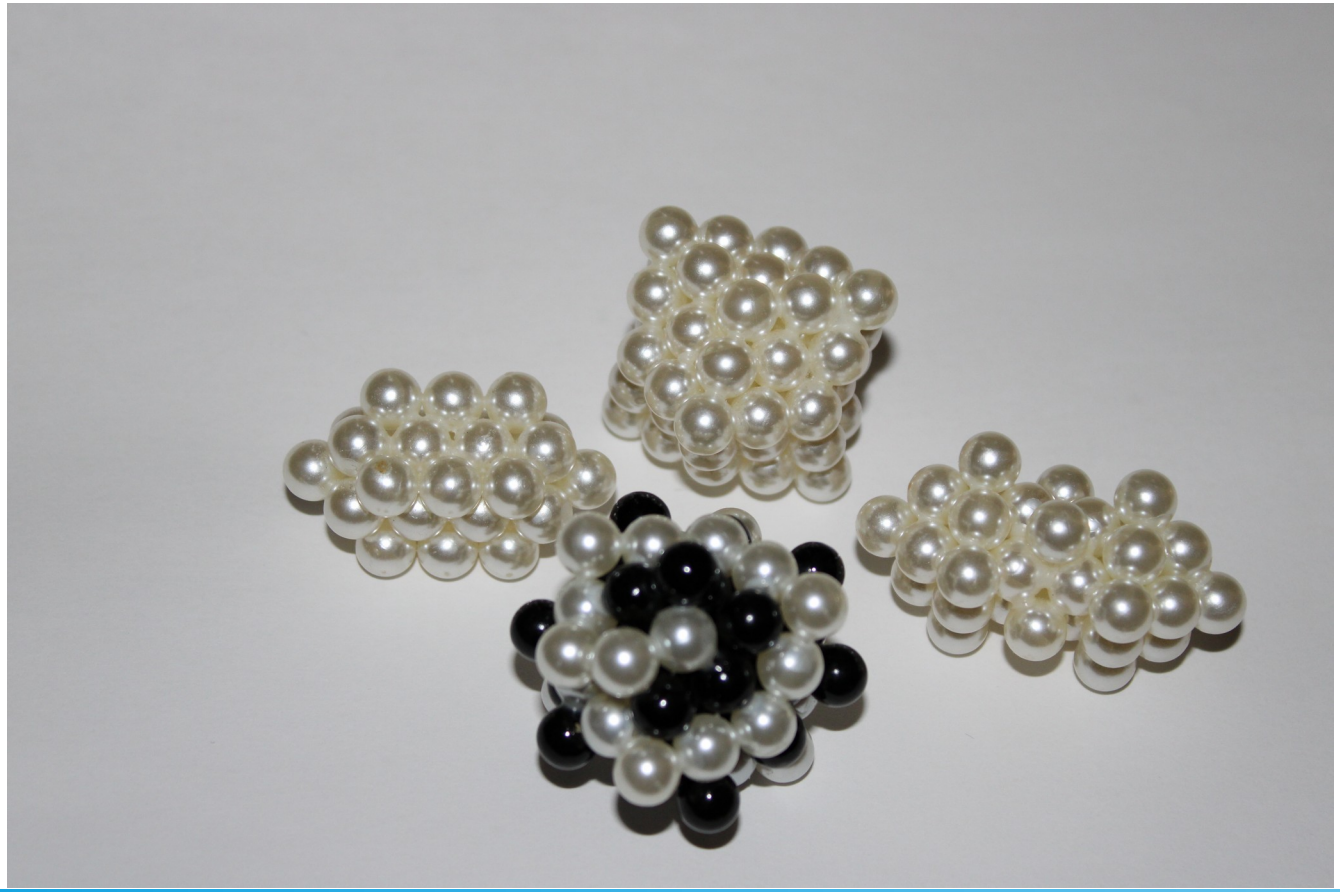


Argon nucleus is porous, iron is smooth

Incremental elements

Silicon

Copper

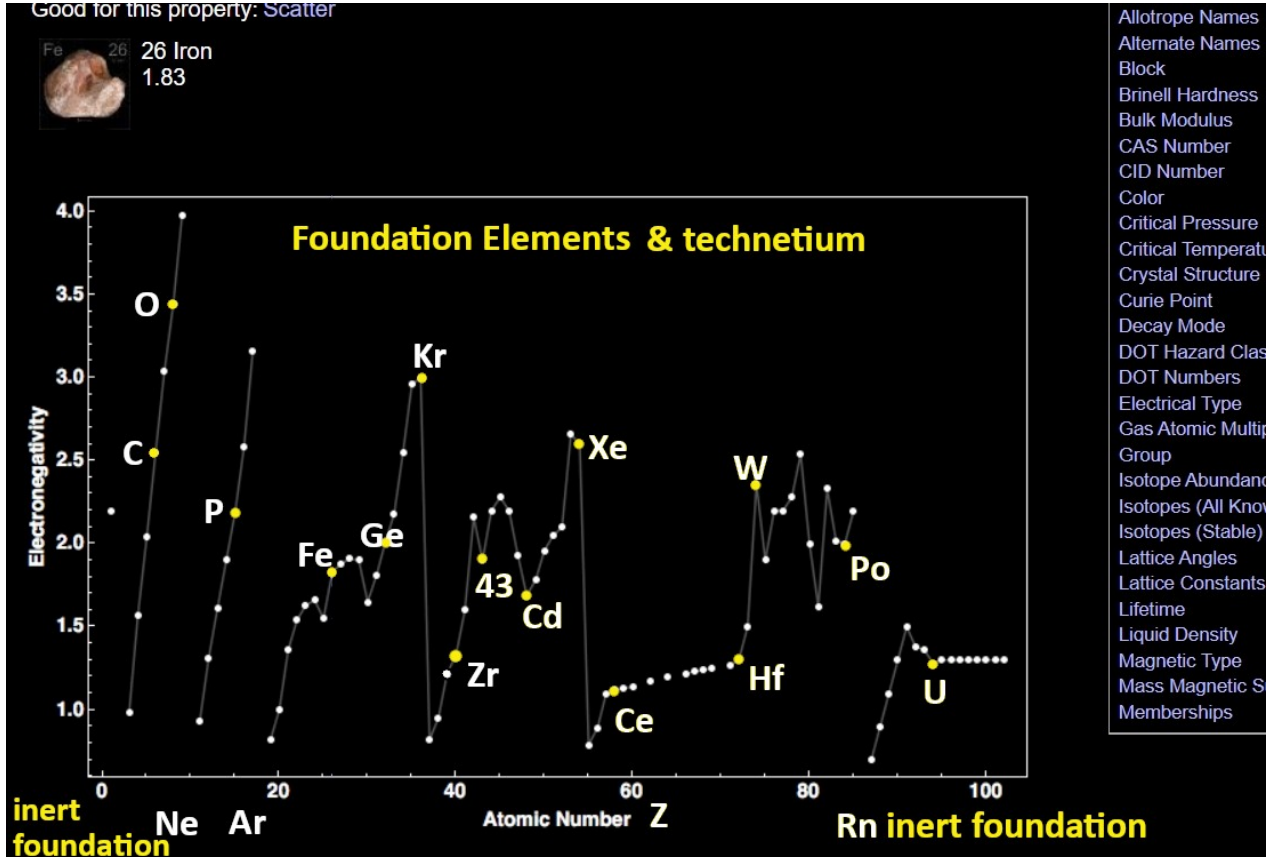


Foundation elements

Iron

Argon

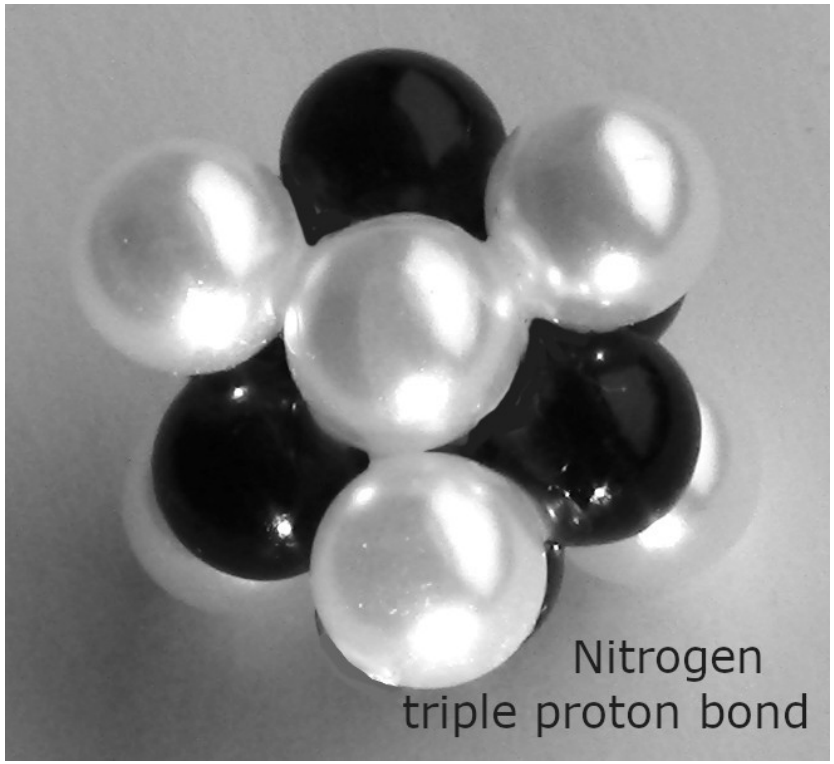
Electronegativity mapped to foundation elements



Ideas for material science

- Each proton is always loyal to one electron, temporarily
- Proton rings carry AC and DC loyalty currents
- **Chemical bonds usually start at the ends of proton lines**
- Memory-metal and memory biology are in a theoretical class

Source of the nitrogen triple bond



A bond often begins on the end of a proton line

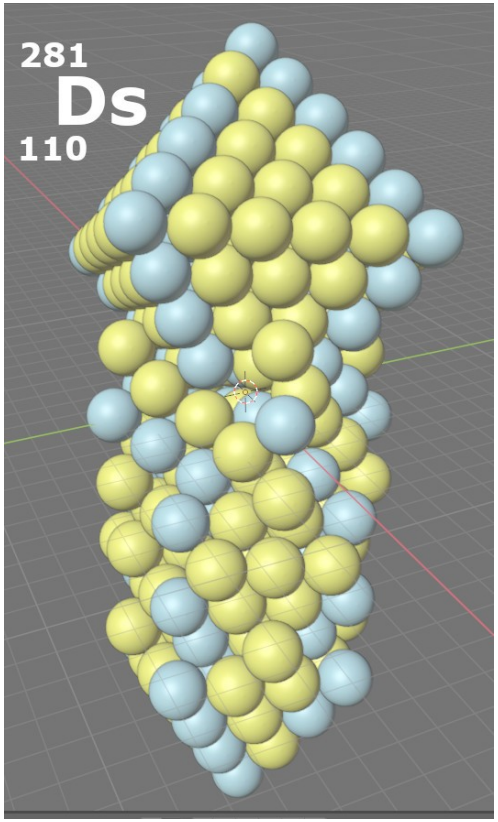
N_2 molecule has a triple bond

$$N \equiv N$$

Most proton lines do not branch like N

Krypton

Darmstadtium



Blue protons

Yellow neutrons

Digital models of all elements

Neodymium, boron, iron magnetic alloy

Cubes at the centers of nuclei

Cube-2 C to Mn

Cube-3 Fe to Ts

Cube-4 Tc, Pm, Pa, Og