

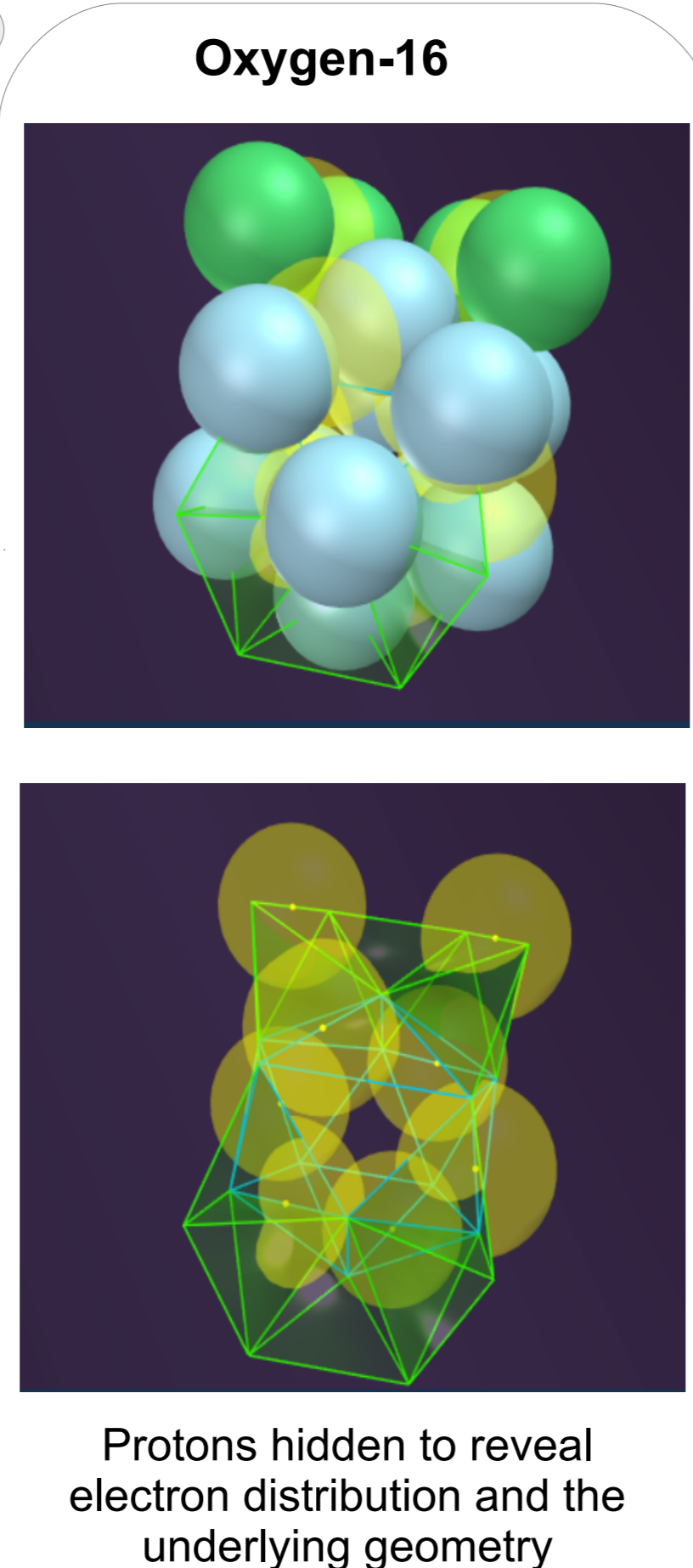
The Structured Atom Model - SAM™

Summary of the Structured Atom Model (SAM)

SAM shows how the periodic table grows in a logical, tree-like fashion with natural termination points for the branches. With the SAM, we show that neighboring atoms and isotopes exhibit a structural relationship which is very much predictable, logical and verifiable.

Major Postulations of SAM

- The SAM models the nucleus in accordance with properties found in the Periodic Table of the Elements (PTE) – e.g. valence, neutron/proton ratio, atomic weight, stability, nuclear spin, etc.
- SAM postulates there must be organization and structure to the nucleus and this structure determines the properties of the elements.
- Stable elements have a stable structure. The nucleus does not change without an external influence.
- The SAM is based on three simple concepts: a) a single organizing (electric) force, b) the principle of densest packing, and c) the tendency of nature to prefer specific geometric arrangements - the platonic solids.
- The nucleus is made from **clusters of protons** which we have named **nuclets**.
- Nuclets combine in a tree-like fashion to create the larger elements. **Fusion reactions** can be explained by combining nuclets together. **Fission reactions** are explained by breaking nuclets apart.
- The SAM is predictive, e.g. the geometry of the nucleus determines whether an element is a metal, halogen or noble gas for example.
- The SAM shows why some elements are stable, how they decay into other elements or isotopes, and why elements are abundant or rare.
- The SAM is a structural, not a mathematical theory – the basic theory is simple, intuitive and well-suited for educational purposes. Being able to build the nucleus with magnets, hold it in your hands, and marvel at its beauty brings the fun back to chemistry!



The New Neutron

- A free neutron is an unstable 'particle' and cannot exist by itself. When removed from the nucleus a neutron spontaneously decays into a proton and an electron within 15 minutes.
- The SAM defines the **free neutron** as an unstable proton/electron pair that is held together electrostatically – no weak force is required.
- The SAM defines the **nuclear neutron** as a proton that shares its electron with other protons in the nucleus –most often with one other proton in a **'Deuterium pair'**.
- Nuclear electrons prevent the protons from repelling each other and hold the nucleus together – there is no mysterious strong force.
- The nuclear electrons can be found in several arrangements but the most prevalent form is Deuterium-two protons with an electron in between. **This is the primary building block of atoms.**
- Nuclear electrons have been theorized for most of the 20th century, but were voted down at the 1933 Solvay conference in favor of the Bohr model.



The SAM explains the periodicity of the Periodic Table

The periodic table is arranged such that elements with similar properties are in the same column or group. The SAM shows why – elements of the same group have the same active ending.

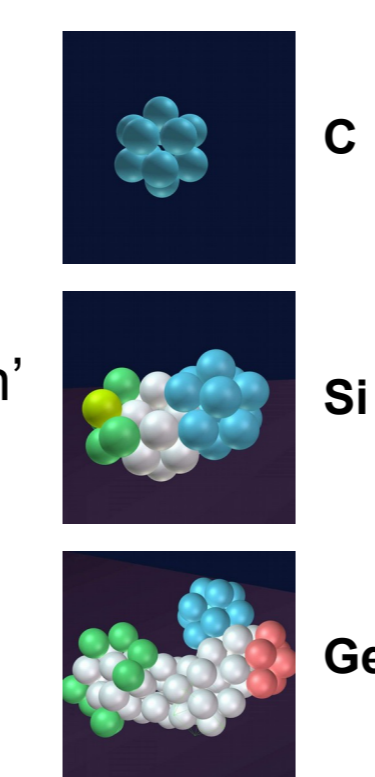
Alkali Metals Group I

Each has one active red 'lithium' nuclelt



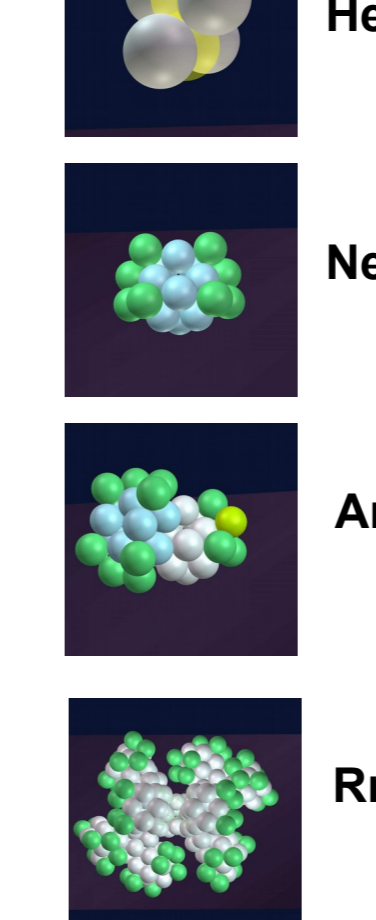
Carbon Group XIV

Each has one active blue 'carbon' nuclelt.



Noble Gases Group XVIII

All endings are green which means they are neutral or inert.



Ethereal Matters Mission

<http://etherealmatters.org>

The *Ethereal Matters* website is focused on bringing scientists together to discuss, scrutinize and advance the Structured Atom Model. We provide interactive web-based software tools which demonstrate the theory in 3D for research and educational purposes.

Software Tools

The **Atom Builder** is an interactive 3D web program which enables researchers to model the nucleus according to the SAM.

The **Atom Viewer** displays the atoms created with the Atom Builder.

Future modules include:

- Atom Auto-builder** – A program which follows the SAM to automatically build the elements. This will help in research and demonstrate the predictability of the SAM. (Largely completed)
- 3D Periodic Table** – Rearranges the PTE to show different growth paths of the elements.
- The Chemist** – A Program which demonstrates how SAM can explain chemical reactions through geometry.
- The Alchemist / transmuter** – Shows how elements change in fusion and fission reactions. Needed to predict likely LENR reactions.
- Atom Educator** – A program to teach chemistry and physics.



Future Research

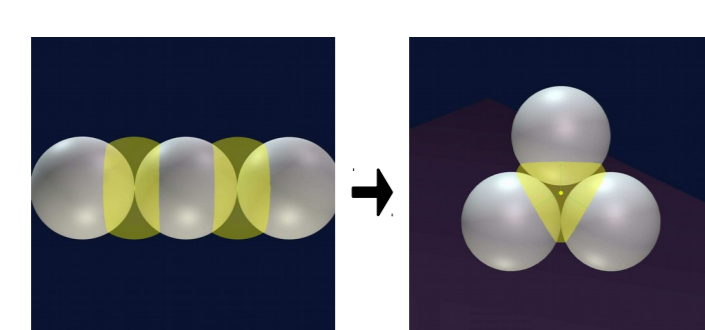
- Identify structure of remaining elements. 29 completed, 30+ more under development.
- Determine how nuclear structure dictates the nuclear spin.
- Identify potential LENR reactions.
- Explore possible missing elements.
- Determine location and behavior of nuclear electrons.
- Research how nuclear structure determines the outer electron orbitals and therefore chemistry.

SAM Demonstrates Four Different Types of Nuclear Reactions

Radioactive Decay

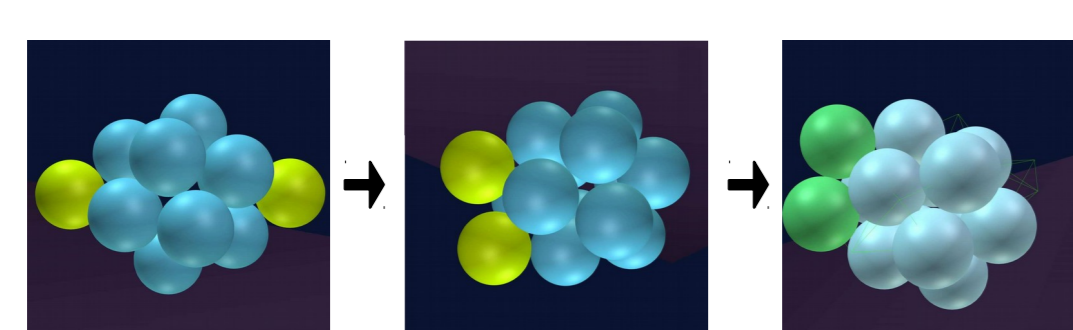
Electron emission from the nucleus

Tritium T(3) decay to Helium He(4)



Tritium decay, a change in inner / outer electron ratio

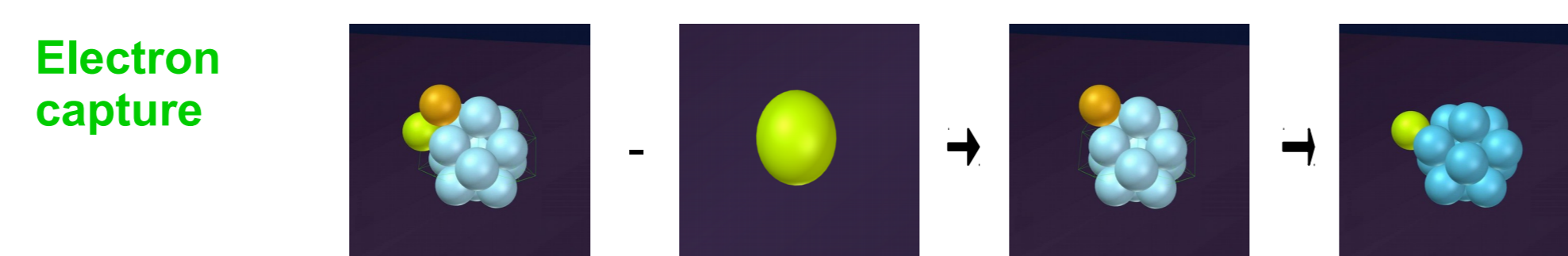
Carbon C(14) decay to Nitrogen N(14)



Carbon 14 decay, a change in inner / outer electron ratio

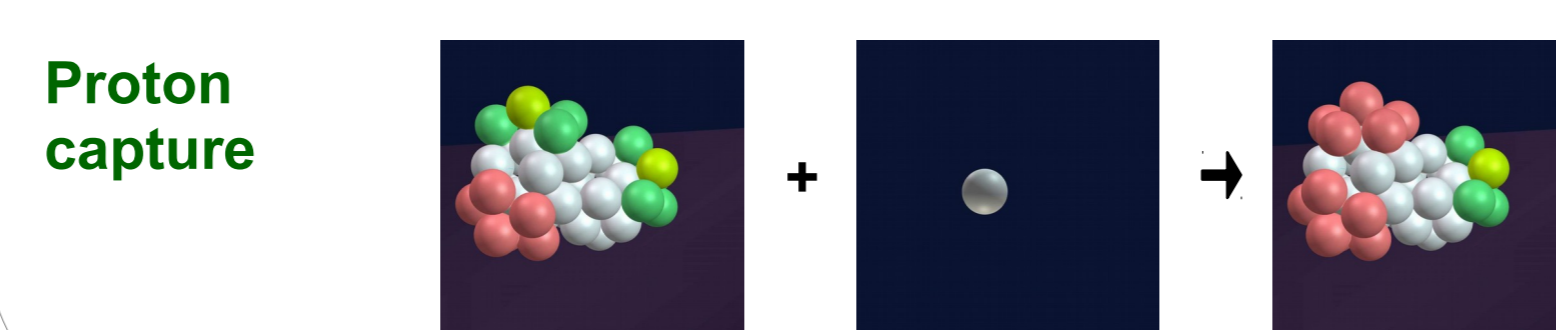
Electron and Proton Capture

Nitrogen N(14) – neutron n(1) → Nitrogen N(13) → Carbon C (13)



Electron capture

Potassium K(39) + Hydrogen H(1) → Calcium Ca(40)

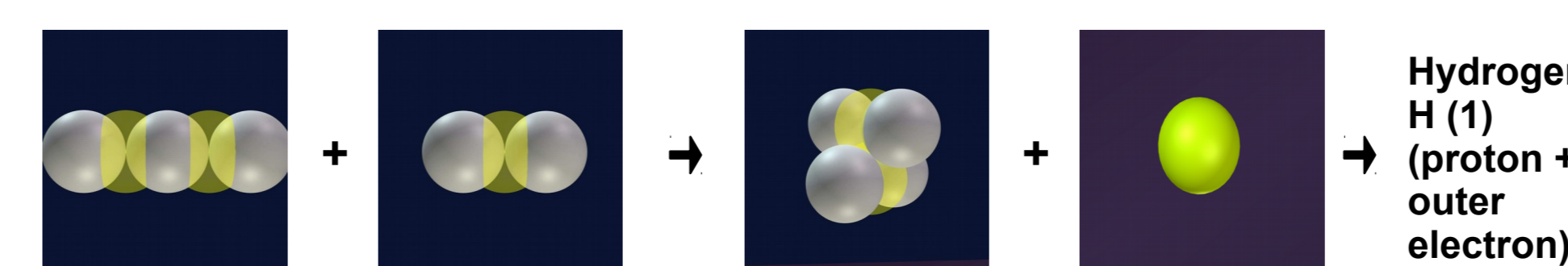


Proton capture

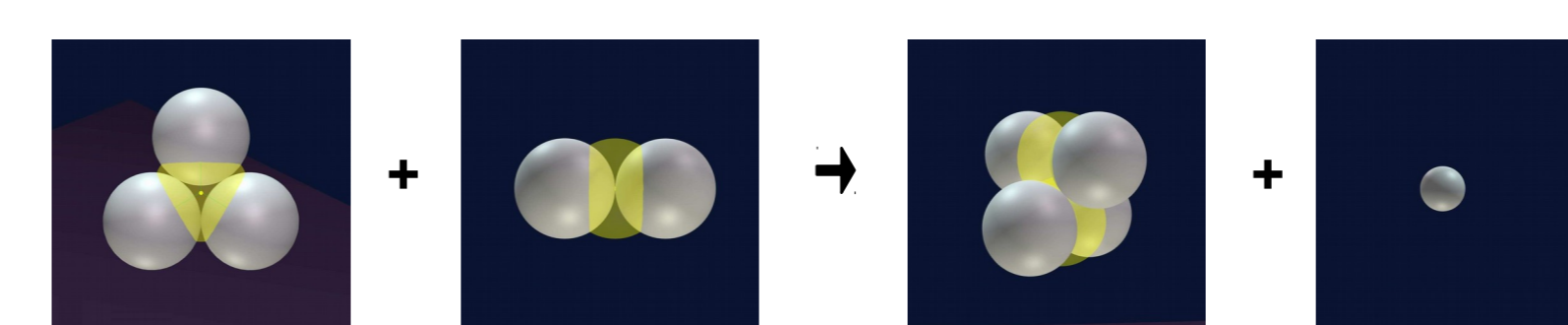
Hot fusion

Electron state change (inner ↔ outer electron)

Tritium T(3) + Deuterium D(2) → Helium He(4) + free neutron (1)



Helium He(3) + Deuterium D(2) → Helium He(4) + proton (1)

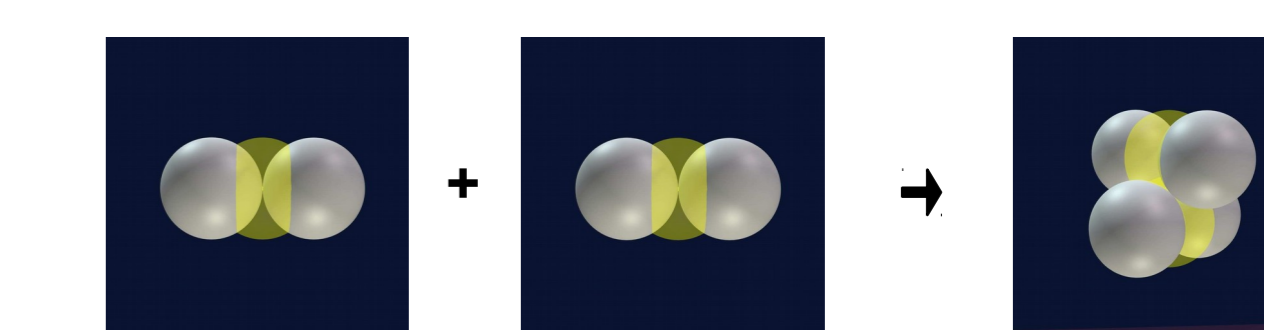


Hydrogen H (1) (proton + outer electron)

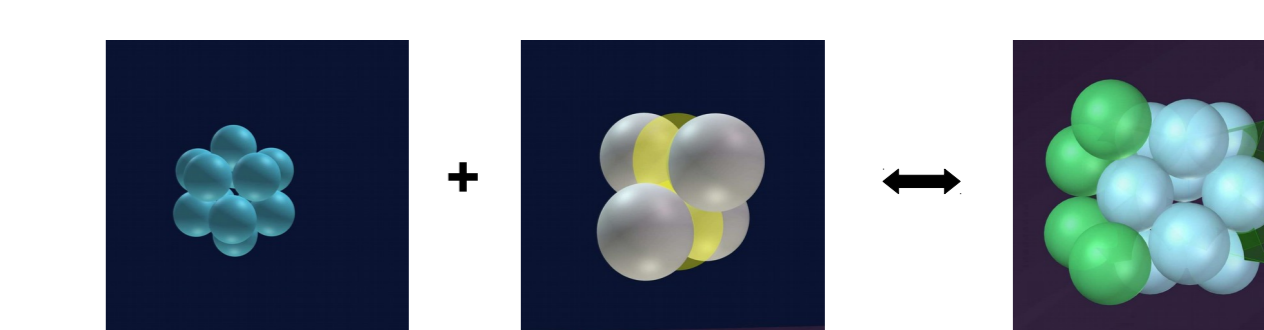
Cold Fusion - LENR

Combining the Deuterium nuclets – (No change of inner or outer electron ratio)

Deuterium H(2) + Deuterium H(2) → Helium He(4)



Carbon C(12) + Helium He(4) ↔ Oxygen O(16) ?



Periodic Table of the Elements

(Released up to Copper)

	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII	Group VIII	Group IX	Group X	Group XI	Group XII	Group XIII	Group XIV	Group XV	Group XVI	Group XVII	Group XVIII
Period 1	H(1P)	N (P+e)	D / H(2P/1e)	T / H(3P+2e)													He (3P+1e)	He (4p+2e)
Period 2	Li (7)	Be (9)															F (19)	Ne (20)
Period 3	Na (23)	Mg (24)															Cl (35)	Ar (36)
Period 4	K (39)	Ca (40)	Sc (45)	Ti (46)	V (51)	Cr (52)	Mg (55)	Fe (56)	Co (57)	Ni (58)	Cu (63)							

"We have a duality which we call a proton-electron pair with the electrostatic force acting between them. This force is the causal mechanism for the principle of densest packing that creates geometric shapes based on the platonic solids. These geometric shapes in a specific ordered sequence and number, create all the elements and their isotopes."

What do we claim with the SAM?!

The SAM shows the observed nature and properties of the atom and the elements. The model allows anyone to understand the elements in a most simple manner.



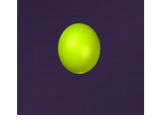
Ethereal Matters LLC
<https://etherealmatters.org/sam>

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The Structured Atom Model™ (SAM)™ was developed by Edo. All depictions here are generated with the Atomizer-builder module developed by James.

3D visualization of the Periodic Table of the Elements according to the Structured Atom Model
(Released up to Copper)

N (P+e)



Na (23)

