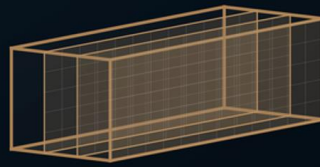
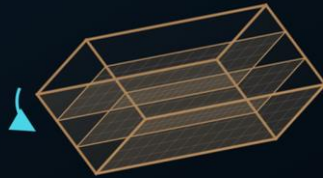
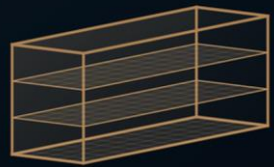


NUCLEUS BUILDER

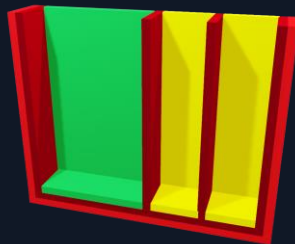
Building a Visual Model of the Atomic Nucleus

A structural model inspired by Noah's Ark



Protons

Neutrons



Up quarks

Down quarks

NUCLEUS BUILDER (NUKE)

Nuclear Structure Inspired by Noah's Ark - © 2026 Derek Marshall. All rights reserved.

Later Sail Mature

NUKE 2D Sail (Side View)

X-Y view - 32 x 48 window



NUKE Raft (Top View)

X-Z view - 32 x 8

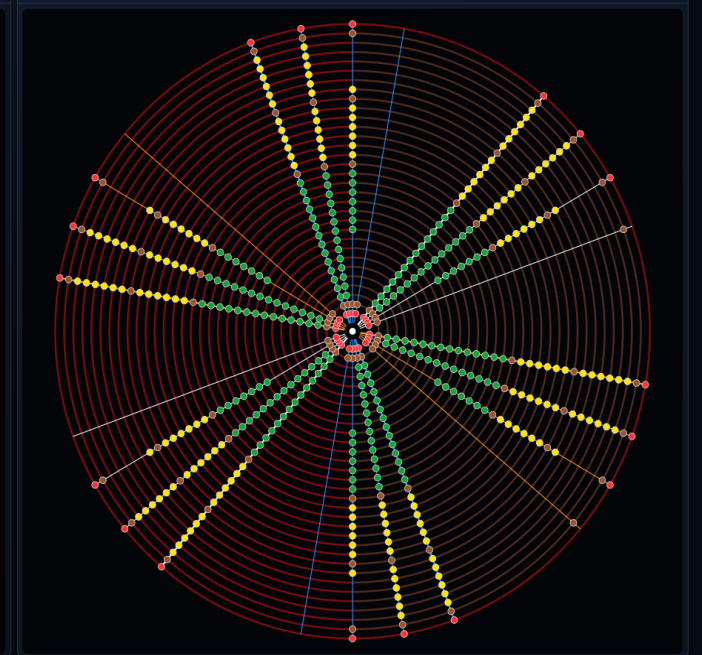


Proton / red Neutron / brown Down quark / green Up quark / yellow

RAFT: Flat baryon load-bearing structure shown with top view of quark load.
SAIL: Side view of sail-like structure of quarks and baryons growing out of raft (shadow).
3D: Top View of circular projection of RAFT, with each sail section as 6-spoke groups.

NUKE 3D Raft / Sail (Top View)

Top view



Controls & Construction Readout

Z + N = A

Protons (Z) 74
Neutrons (N) 110
Isotope (A) 184

Clear

Predictor ON

Keyboard: 1/1 changes Z - /+ changes N

W-184: STABLE

Protons: 74 Neutrons: 110
Quarks: Down (G): 294 Up (Y): 258 Total: 552

Predicted Strongly Stable 3.88 / 4.78

R/B Structure +3.02	R/B Alignment +0.00	G/Y Load +0.00	Green Shelf +0.00
Yellow Shelf +0.25	G-Y Balance 0	G-R/B Repair +0.00	Nucleon Pairing +0.60

Mr. Derek Marshall: Physics, B.A.
Engineer, Author, Inventor
<https://CreationFunction.com>

Web-Based Interactive Nucleus Builder Program with Stability Predictor

Why Noah's Ark suggested a nuclear model

Noah's Ark suggested not merely a container, but a load-bearing architecture in which structure determines where the load can be carried.

Ordered sample

Preserved a representative sample of Creation inside a finite protective structure.

Load & structure

Floors, walls, frames and pitch had to balance cargo capacity against structural integrity.

Finite scaffold

Dimensions, levels and an opening (the door) defined a complete architectural system.

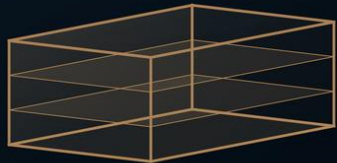
Creation Conduit

The same structure carried the pattern of Creation through the Flood and forward after the waters receded.

How Noah’s Ark suggests a nuclear model

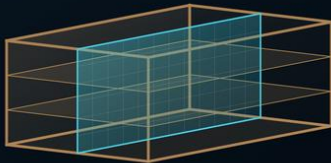
Think of the ark as a loaf of bread. The Ark Frame is simply one slice of the ark, divided in half—making it easy to examine the structure.

A The Ark as a rectangular volume



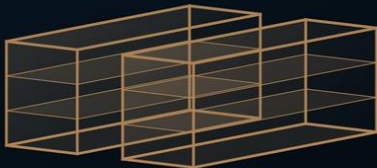
The same rectangular structure is retained through the section and rotation.

B The longitudinal section



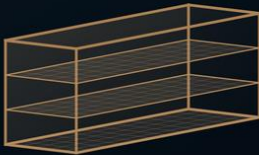
The same rectangular structure is retained through the section and rotation.

C The two resulting halves



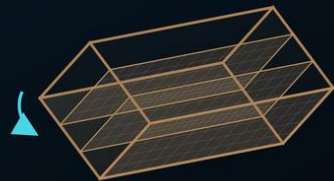
The same rectangular structure is retained through the section and rotation.

D One half Ark



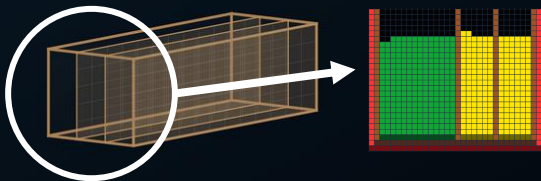
The same rectangular structure is retained through the section and rotation.

E Rotation about the long axis



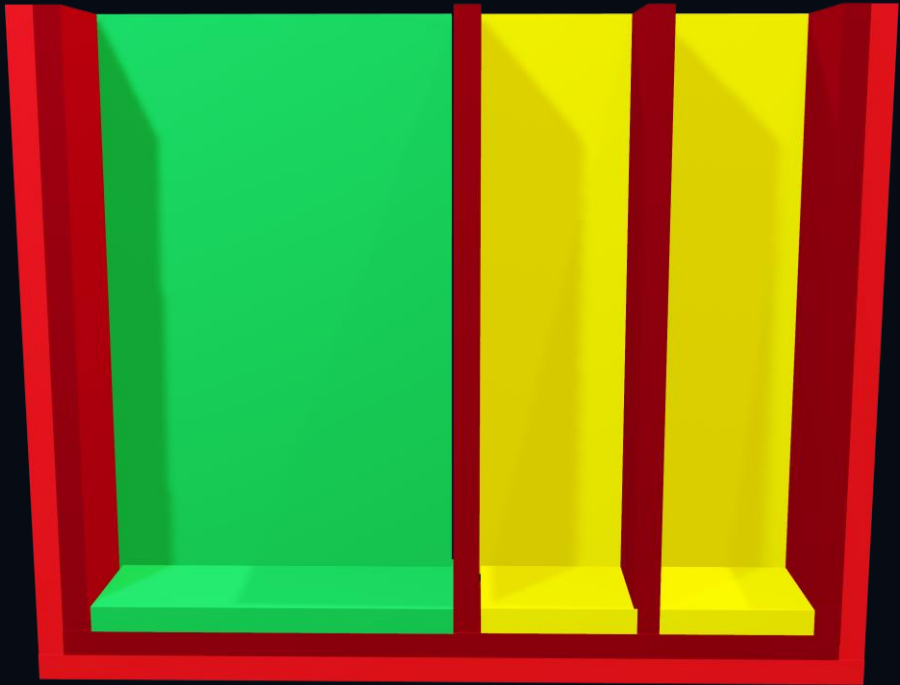
The same rectangular structure is retained through the section and rotation.

F Resting on the bulkhead side



The same rectangular structure is retained through the section and rotation.

The Ark Frame: Perspective View

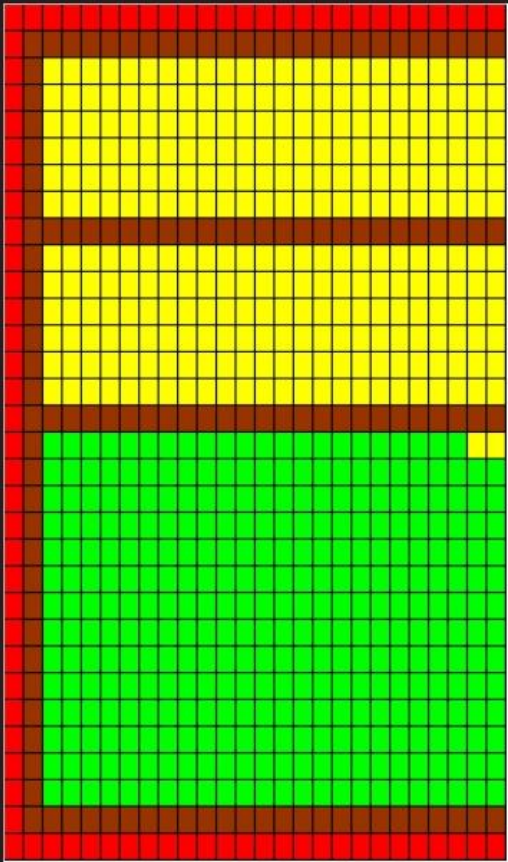


Four nuclear particle quantities — consistent with Ark Frame Dimensions.

It was this Lead-208 example that prompted me to pursue Nucleus Builder.

COLOR		NUCLEAR QUANTITY (IN LEAD-208)	ARK ROLE
	Red	Proton (82)	Pitch / sealing and covering outer structure
	Brown	Neutron (126)	Wood / structural support
	Green	Down quark (334)	Load (lower decks)
	Yellow	Up quark (290)	Load (upper decks)

Pb-208, From Original
“Nucleus Bilder” Program



The original “Nucleus Bilder” program did not include the 30 X 6-cubit base which allows for nuclei greater than Pb-208 to be modeled

What might we learn by constructing nuclei one particle at a time?

1

Accept Z and N

Proton and neutron counts define the isotope; $A = Z + N$ follows automatically.

2

Calculate quarks

Proton $\rightarrow$ 2 up + 1 down; neutron $\rightarrow$ 1 up + 2 down. Every nucleon contributes three quarks.

3

Place by fixed rules

Every particle occupies a defined geometric location according to locked construction sequences.

4

Examine and score

The completed structure is scored against explicit stability criteria derived from the geometry itself.

From Original “Nucleus Bilder” Program, circa 2010



One proton and one neutron — three quarks each

PROTON

$Z = 1$



1 red square → proton



yellow square → up quark



yellow square → up quark



green square → down quark

NEUTRON

$N = 1$



1 brown square → neutron



yellow square → up quark



green square → down quark



green square → down quark

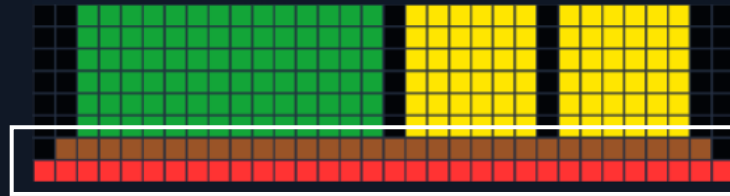
The “Raft” — 30×6 load-bearing foundation for 156 quarks

The Raft: Perspective View



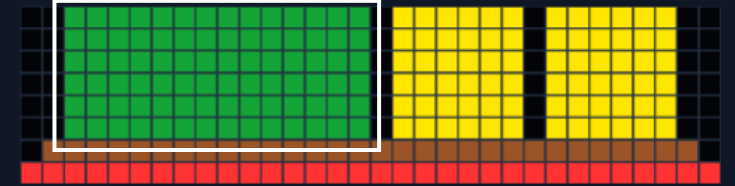
The brown “logs” form a flat raft-like structure for the green and yellow load. The red signifies “pitch” sealing the logs.

30 log positions wide, 6 deep



Horizontal red and brown span maps to the protons and neutrons (baryonic structure)

Green shelf (14 cols)



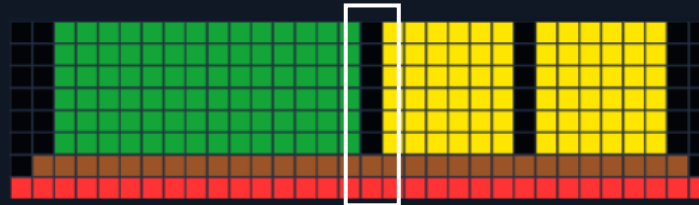
Native down-quark region (column 2...15), but yellow quarks may fill if no supports, and cut is full.

Yellow Shelves Y1 + Y2



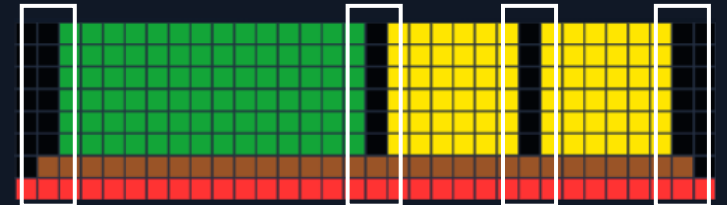
Native up=quark region (columns 17...22 and 24...29).

The Cut (x = 16)



The origin of the particles. Also temporary overflow that closes when brown wall for sail is placed.

Column supports



Columns 1, 16, 23, 30 act as walls, edges, and separators for green and yellow load.

Structure before load — the principal placement rule

1

Support appears

Brown neutron or red proton occupies a structural cell.

2

Column unlocks

Supported locations become available for quark placement.

3

Load enters

Green or yellow quarks fill the opened shelf positions.

4

Unsupported stay empty

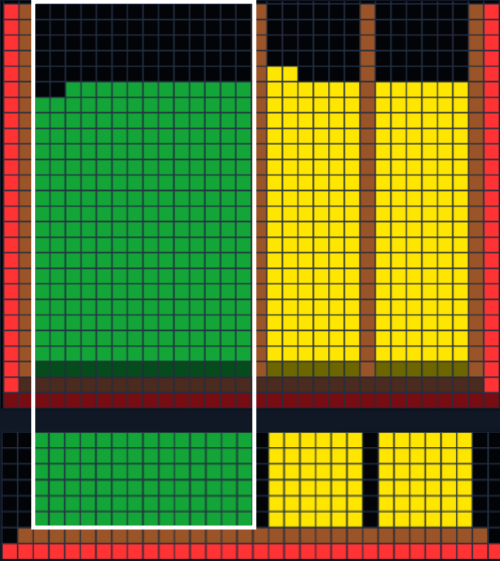
Columns without red/brown remain unavailable until support arrives.

Hydrogen, H-1



Three shelves for quarks: G, Y1, Y2

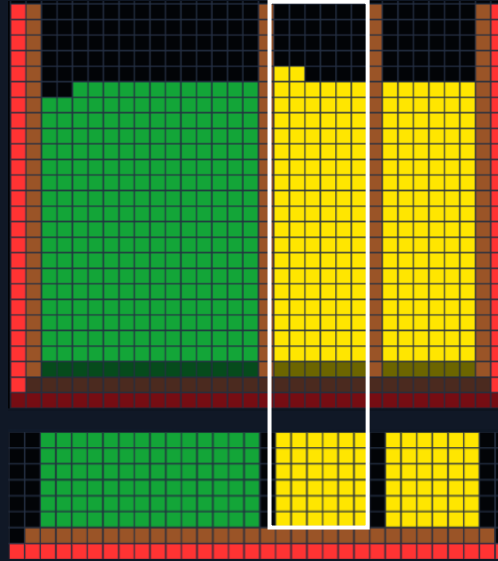
G



Green shelf

14 columns ($x = 2 \dots 15$)
Native down-quark region
Fills leftward from the Cut

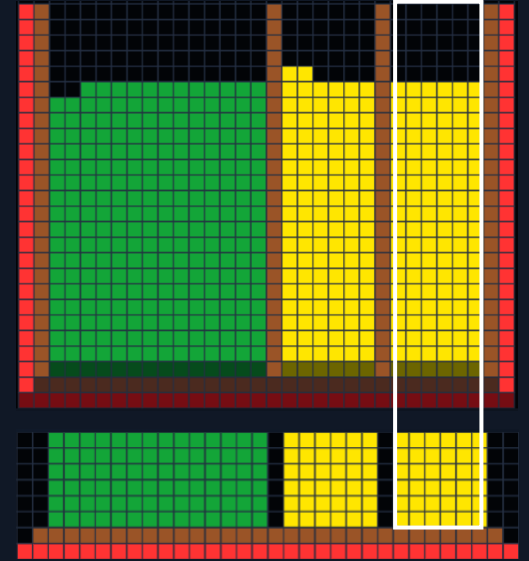
Y1



Yellow Y1

6 columns ($x = 17 \dots 22$)
First up-quark shelf
Fills rightward from the Cut

Y2



Yellow Y2

6 columns ($x = 24 \dots 29$)
Second up-quark shelf
Fills after Y1 is complete

The Cut — temporary overflow at $x = 16$

Begins open

When ordinary supported shelves cannot accept the full quark load, excess green and yellow may occupy the Cut.

Closes on contact

The Cut remains available only until the brown structural wall reaches $x = 16$. Then it is sealed with a red pitch particle.

Forces the Sail

Material that no longer fits must move into the developing vertical Sail structure.

Model prediction

The Cut is proposed as a preferred site of nuclear reorganization and energy exchange.

Helium, He-4



From Raft to Corners to Sail — one continuous construction

1

Raft, Fe-52



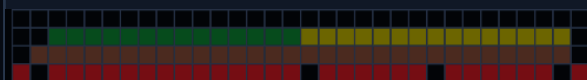
View)



Nucleus still fits completely in the flat foundation. Structure and load share the 30×6 grid.

2

Corners, Ni-58



op View)



Quark population reaches Raft capacity; supports have not begun to fill, so red gathers in corners.

3

Depleted Sail, Ni-62



op View)



Narrow transition: Sail construction has begun with brown structural supports beginning to fill.

4

Sail, Ni-64



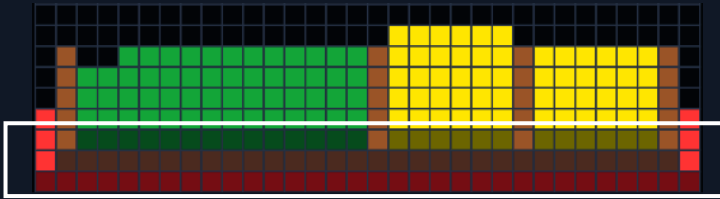
op View)



Remaining baryons and quarks rise into the vertical plane. Five successive six-spoke groups appear.

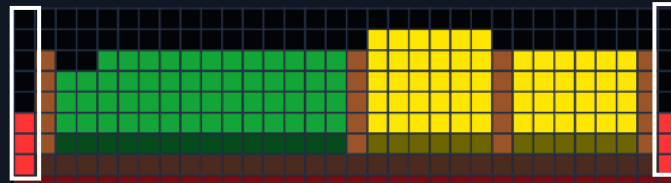
The Sail — 2-D side view rising from the Raft: Examples Sr-88 and Mo-92

Raft shadow



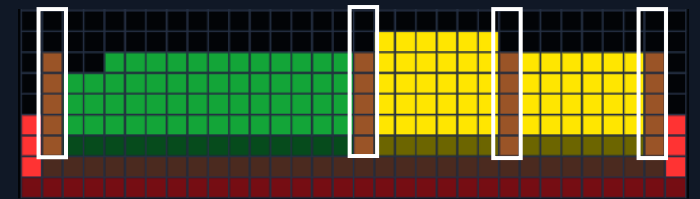
Completed Raft positions appear at the bottom of the Sail as a dark reference layer.

Red outer edges



Protons occupy the outside columns ($x = 0$ and $x = 31$) and climb upward.

Brown internal walls



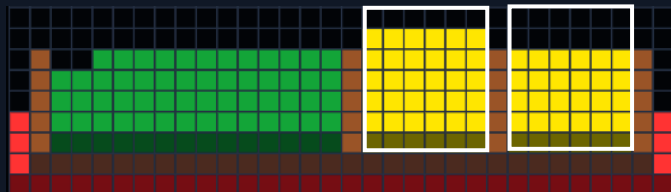
Four wall columns (1, 16, 23, 30) provide the vertical structural frame.

Green Shelf, G



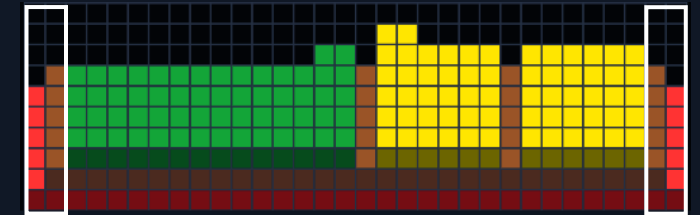
Down-quark shelf grows leftward 14 positions. Full G shelf promotes stability.

Yellow Shelves: Y1 then Y2



Up quarks fill Y1 six positions before opening Y2. Full yellow shelves promote stability.

Structural Evenness rule



Stability is strongly linked to red–brown evenness as the both the raft and sail build.

From 2D to 3D — radial projection of the completed matrices

The 3D display does not independently reposition the particles. It projects the completed 2D construction into a radial coordinate system.

6 quark rows → 6 spokes

Each vertical quark row becomes one spoke of a six-spoke group.

Horizontal x → radial position

The 32 horizontal positions become 32 radial distances from the center.

Red / brown → Raft rings & Sail beads

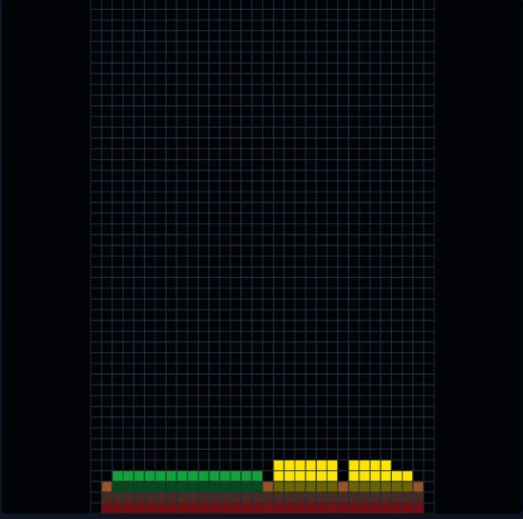
Structural positions map to concentric rings or spoke beads.

5 groups × 6 spokes = Sail 30 spokes total

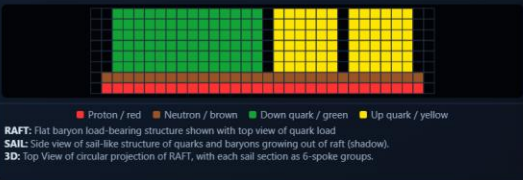
Sail expands to five successive six-spoke groups at 10° angular offsets.

NUCLEUS BUILDER (NUKE)
Nuclear Structure Inspired by Noah's Ark · © 2026 Derek Marshall. All rights reserved.

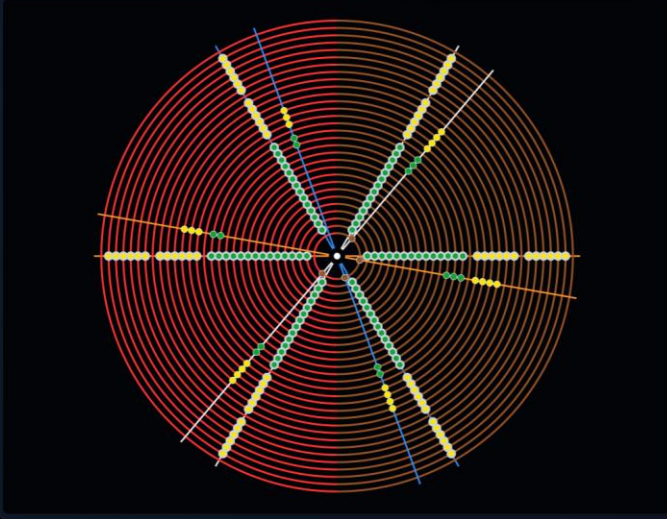
NUKE 2D Sail (Side View)
X-Y view · 32 × 48 window



NUKE Raft (Top View)
X-Z view · 32 × 8



NUKE 3D Raft / Sail (Top View)
Top view



Controls & Construction Readout
Z + N = A

Protons (Z)
Neutrons (N)
Isotope (A)

30
34
64

-

+

-

+

-

+

Clear

Predictor ON

Keyboard: /; changes Z · -/+ changes N

Zn-64: STABLE
Protons: 30 Neutrons: 34

Quarks: Down (G): 98 Up (Y): 94 Total: 192

Predicted Strongly Stable

4.08 / 4.78

R/B Structure
+3.02

R/B Alignment
+0.00

G/Y Load
+0.00

Green Shelf
+0.35

Yellow Shelf
+0.00

G-Y Balance
-8

G-R/B Repair
+0.00

Nucleon Pairing
+0.65

NUCLEUS BUILDER · 13 / 27

The structural hypothesis

Stable nuclei tend to occupy balanced, supported, and comparatively complete NUCLEUS BUILDER structures.

Red–brown structural evenness

Structural evenness of protons and neutrons across the active regime.

Green–yellow balance

Load evenness of up and down quarks within the active six-spoke group in 3D projection
G-Y Balance $-6 \leq x \leq +6$

Shelf completion

Closed green or yellow shelves signal organized capacity usage.

Parity / pairing

Even–even and even–odd combinations receive a score preference.

Stage maturity

Criteria weights change with Raft, Corners, Depleted Sail, Draft, and Sail regimes.

Constrained repair

Up to six green square remainder may fill missing red/brown if deficit is met and full green shelf is left behind. Example Ca-48.

Contrasting unstable constructions

Proton-rich imbalance

Too many red relative to brown; structure leans toward β^+ territory. **G-Y Balance < -6**

Neutron-rich imbalance

Brown advances far ahead of red; structure leans toward β^- territory. **G-Y Balance > +6**

Incomplete group

A new six-spoke group opens before the previous group has closed legal capacity.

Ragged load

Green or yellow beads cluster on one side of the circle, breaking G/Y evenness.

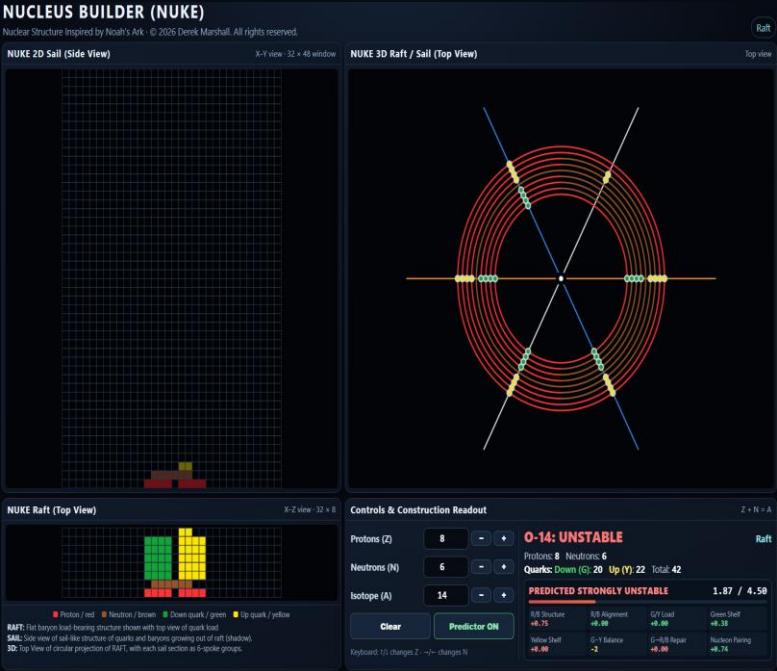
Missing closure

Shelves remain partially filled when the regime expects completion.

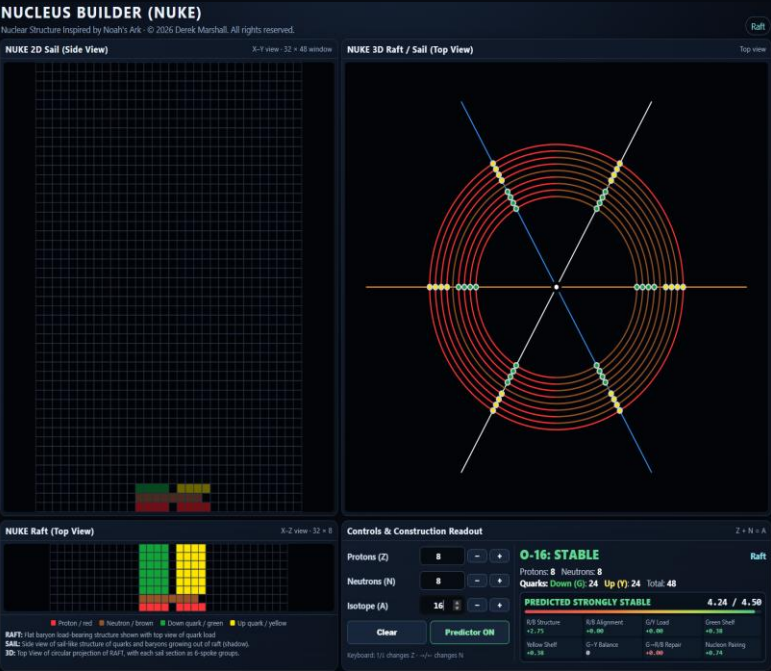
Odd-odd parity

Both Z and N odd; pairing criterion applies a structural score tax.

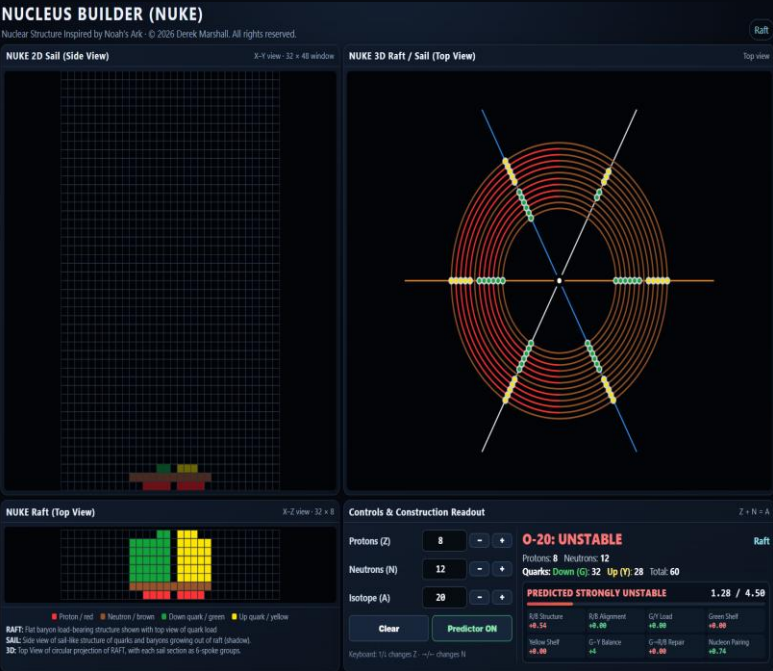
Stability Progression — Raft regime, O-14, O-16, O-20



O-14 · Unstable

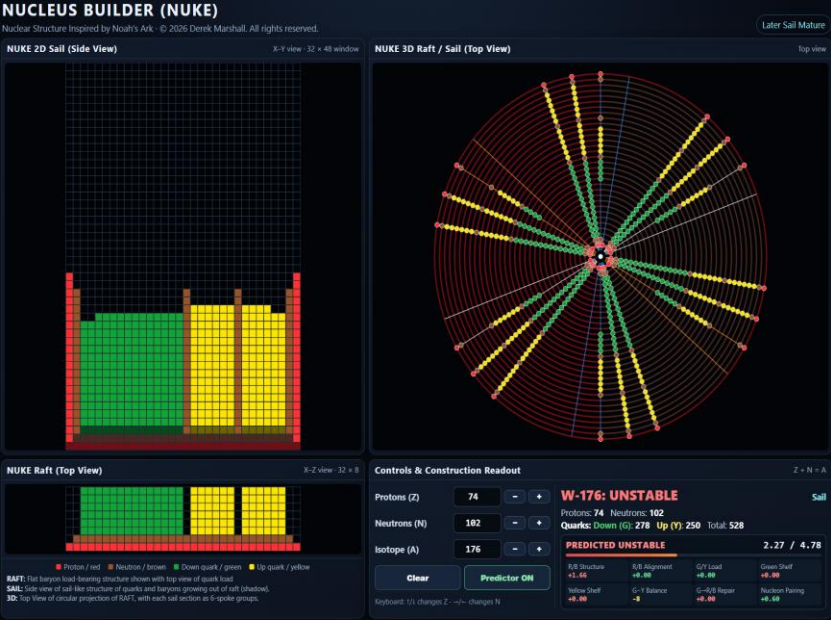


O-16 · Stable

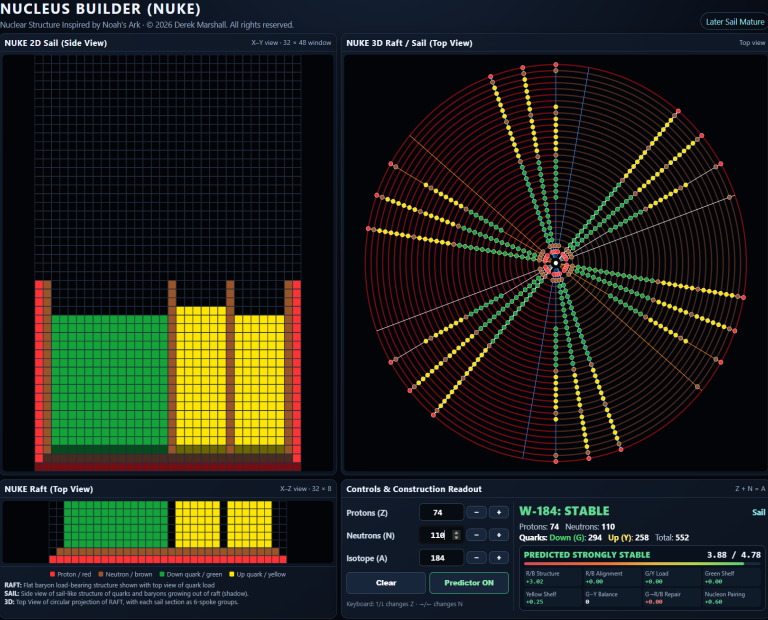


O-20 · Unstable

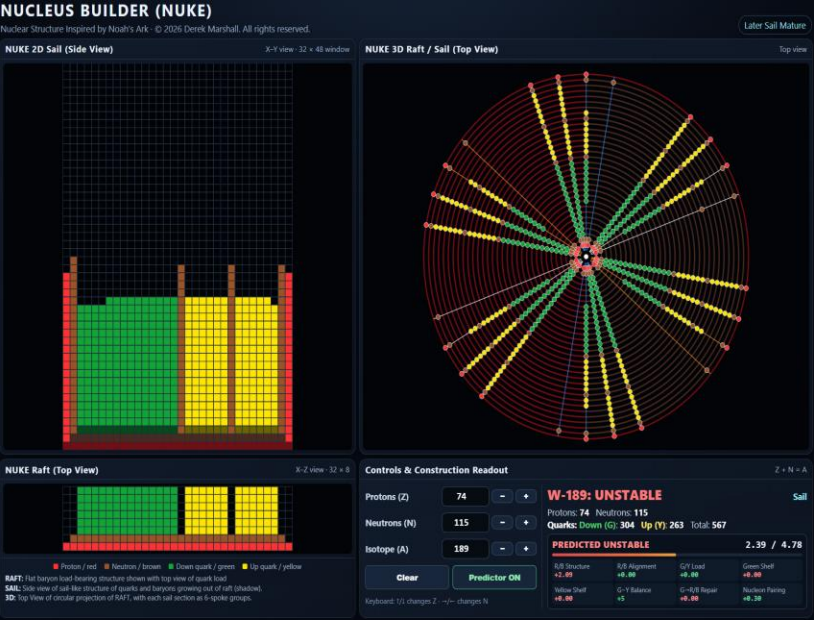
Stability Progression — Sail regime, W-176, W-184, W-189



W-176 · Unstable



W-184 · Stable



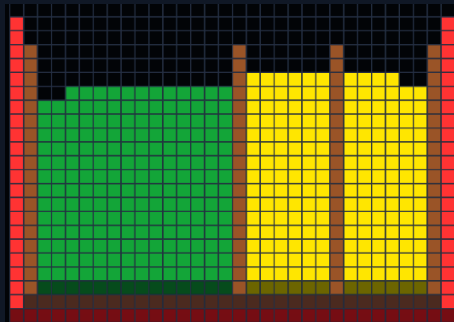
W-189 · Unstable

One element across its isotope chain: Example, Tungsten, W

Holding Z fixed and stepping N shows the same rules generating the entire chain — not separate drawings for each isotope.

1

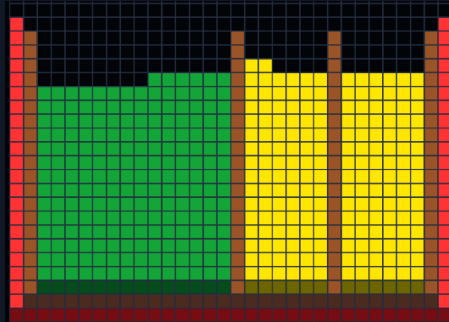
Proton-rich: W-176



N too low
Red dominates
Predicted unstable

2

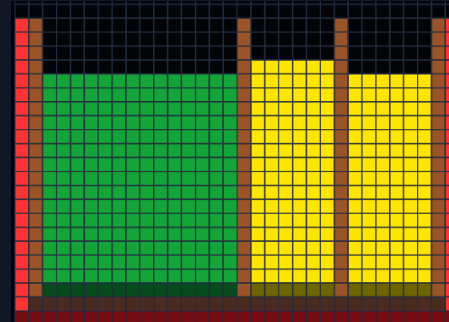
Approaching: W-180



N rising
R/B approaching even
Score climbing

3

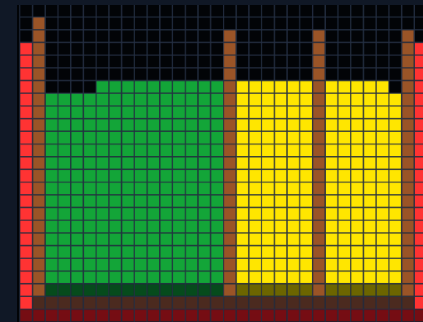
Stable region: W-184



N optimal
Shelves complete
Predicted stable

4

Neutron-rich: W-189



N too high
Brown dominates
Predicted unstable

From observations to explicit criteria, C-Number

Structural Evenness, C1a

Are red and brown structures appropriately balanced?

G-Y Loading, C1c

Is green–yellow load distributed evenly across the active group?

Full Shelves, C2a/b

Are supported green and yellow shelves complete?

G-Y Balance, C2c

Is the signed G–Y difference between -6 and +6? Helps predict decay mode

G-R/B Repair, C4

Can a constrained green remainder repair missing R/B?

Parity, C5

Does nucleon parity favor stability in this regime?

Validation results: 2783 Isotopes Tested

94%

Overall accuracy

92%

Stable-isotope recall

Structural
Evenness

~80–85% of scoring signal
R/B structural balance

Design priority: Stable Recall

The current decision rule is intentionally more tolerant of false-positive stability predictions than of missing known stable isotopes. Stable recall is preferred over raw accuracy. Missing a known stable isotope is treated as a more serious model failure than occasionally over-predicting stability.

What carries the model?

Red–brown structural balance (C1a) is the backbone of the prediction. Other criteria refine the decision.



A modular nuclear architecture

NUCLEUS BUILDER proposes a foundational nuclear group that is structurally different from the five repeated groups that follow.

0

Raft group

Six-spoke foundation
Structurally distinct base
Maps to the flat 30 × 6 Raft

1–5

Sail groups

Five successive six-spoke groups
at 10° angular offsets
30 spokes total capacity

Structural transitions and self-healing

Regime transitions

The nucleus changes from Raft → Corners → Depleted Sail → Sail rather than growing uniformly. Finite capacity and changing support force the geometry to reorganize.

Constrained repair

Under specific conditions an excess green remainder may fill missing red or brown positions, provided a sufficiently complete green shelf remains. Ca-48 is a visible example: six greens can exit the Cut into six empty red spaces.

Self-healing term

“Self-healing” is the model’s informal name for this behavior. Its possible physical counterpart remains to be identified and tested.

Does the architecture have an endpoint?

Og-294

If Og-294 exhausts all legal positions in the six-group structure, any heavier nucleus would require a new group, a new geometry, or a violation of the present NUCLEUS BUILDER rules.

Legal capacity

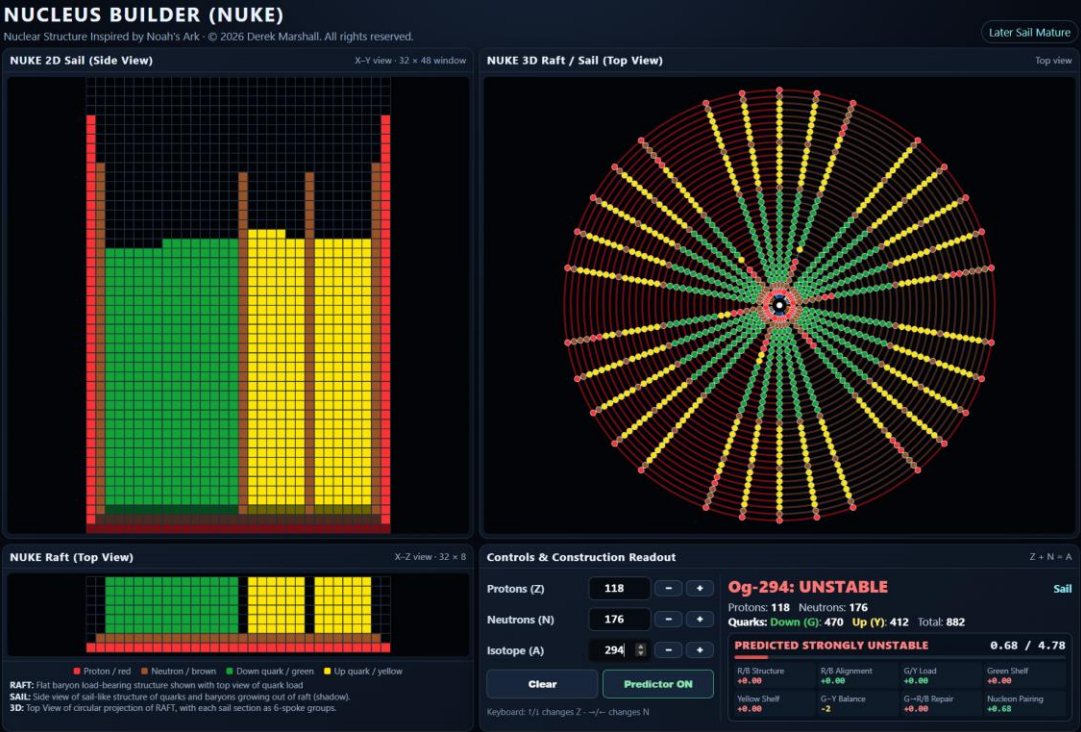
60 red + 120 brown structural beads in the ordinary 30-spoke Sail, plus Raft support rings.

Overage region

Above U-242 excess R/B occupy G/Y lattice space; the model remains finite.

Current recognition

Og-294 is an isotope of the highest-Z element yet confirmed.— consistent with the model’s terminal structure.



Other consequences to test

Shell / sub-orbital closures

Nuclear shell-model closures and spin-orbit sub-orbitals fall along Y1/Y2 shelf closures in the model.

Group magic numbers

NUCLEUS BUILDER group closures may act like structural magic numbers corresponding to measurable changes in nuclear behavior.

Neutron leadership

Neutrons (brown) generally lead the formation of heavy-nucleus structure; red follows.

Quark-load information

Green–yellow organization may contribute stability information beyond simple proton–neutron balance.

The Cut as site

The Cut may correspond to a preferred site of nuclear reorganization or energy exchange.

Observable correlations

Structures may correlate with separation energy, half-life, deformation, or preferred decay direction.

What NUCLEUS BUILDER presently demonstrates



Single scaffold

One rule-based geometry constructs nuclei across a broad range of Z and N.



Nucleon + quark

The same construction generates both baryon and quark representations simultaneously.



Structural signal

Recognizable geometric features correspond with parts of the known stability landscape.



Testable classifier

Those features convert into an explicit, scored, reproducible prediction system.



Interactive inspection

The model can be examined live rather than accepted as a verbal analogy.

Boundaries and invitation to explore

Not a replacement

Does not replace QCD or the nuclear shell model.

Colors are identifiers

Squares are not literal pictures of quark color charge.

3D is a projection

Radial display is not automatically the physical spatial arrangement.

Classification ≠ mechanism

Accuracy does not by itself establish a causal physical mechanism.

Explore the model → creationfunction.com/nucleus-builder

NUCLEUS BUILDER makes a specific proposal: build the nuclei consistently, examine the structures that result, and test whether the pattern is real.