

METHOD FOR QUANTUM-TOPOLOGICAL SYNTHESIS OF SUPERMATERIALS, ADDITIVE 3D-GRAVITON PRINTING AND SUB-ANGSTROM JET PROCESSING VIA EMBEDDING OF STABLE NEUTRONIUM (1+2) NODES

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ABSTRACT OF THE INVENTION

The invention relates to quantum materials science, nanotechnology, additive 3D manufacturing, and precision subatomic processing of solid-state matrices. The invention is based on the direct embedding of stable neutral neutronium clusters 1+2 (128 core) produced from protium (^1H) into the crystal lattice of solid-state matrices (tungsten, titanium, steel, copper, silicon, gold). Due to zero Coulomb charge, the neutral cluster 1+2 freely enters atomic interstitial voids (which are 500,000 times larger than the cluster diameter), locking dislocation movement via nuclear-scale binding forces (10^4 – 10^6 N). The invention provides deep bulk hardening with density up to 45–50 g/cm³, hardness exceeding 120 GPa and melting point > 5000 °C, surface cladding with friction reduction to $\mu \approx 0.001$, additive layer-by-layer 3D-graviton printing of complex geometries, and sub-Angstrom precision drilling of calibrated nanopores (0.5–3.0 Å) for water desalination, DNA sequencing, and planetary defense.

1. FIELD OF THE INVENTION & HISTORICAL PRIOR ART

Classical metallurgical and nanotechnological methods (alloying, dislocation hardening, nano-tubes) are restricted by interatomic valence electron bonds (1–5 eV per atom), leading to dislocation creep, fatigue failure, and centrifugal rotor destruction. Modern beam processing (femtosecond lasers, FIB) is constrained by optical diffraction ($d \geq 200$ nm) or ion Coulomb repulsion preventing sub-nanometer hole drilling.

The SGDM Synthesis: Transition from valence electron manipulation to direct programming of the nuclear-graviton crystal skeleton using neutral 1+2 clusters (128 core, 1.25 MeV per nucleon binding energy).

2. QUANTUM-TOPOLOGICAL BASIS OF SYNTHESIS

The interatomic interstitial void in metal lattices is $d \approx 2.5$ – 3.0 Å (10^{-10} m), whereas the physical diameter of a neutral 1+2 cluster of 10^8 nucleons is only $d \approx 0.48$ fm (4.8×10^{-16} m). The cluster is 500,000 times smaller than the lattice void and strictly neutral ($q \equiv 0$). Clusters penetrate freely into the lattice, gravitationally anchor into vacancy defect wells ("quantum darning"), and permanently block atomic layer slippage, creating defect-free super-monocrystals.

3. THREE CORE SGDM PRODUCTION METHODS

- 1) Deep Bulk Hardening: Workpieces mounted as reactor cores in SGDM-10⁸ are irradiated by 1+2 packets (20 kHz) to 300 mm depth, increasing density by 50–150% and boosting $T_{\text{melt}} > 5000$ °C (1.0g thruster rotors, armor, deep drilling bits to 20 km).
- 2) Surface Scanning Cladding: Magnetic CRT deflection scans the 1+2 beam across component surfaces, creating a 5–50 μm layer with dry friction $\mu \approx 0.001$ – 0.002 (oil-free engines and bearings with 50-year service life, turbine blades, scalpels).
- 3) Additive 3D-Graviton Printing: Simultaneous nanopowder feeding (W, Ti, Si, Au) and pulsed layer-by-layer stitching via 1+2 beams at 10–100 nm steps. Enables printing variable-density gradient parts and monocrystalline silicon phase turbines with [111] cuts.

4. SGDM-ALLOYS ADVANCED MATERIALS CATALOG

Material	Properties after SGDM Synthesis	Industrial Application
W-SGDM (Tungsten)	$\rho = 45$ – 50 g/cm ³ , $T_{\text{melt}} > 5000$ °C, Hardness > 120 GPa	1.0g thruster rotors, armor, nozzles, 20 km drills
Ti-SGDM (Titanium)	$\rho = 4.5$ g/cm ³ , $\sigma_{\text{tensile}} = 15$ GPa (15x strength)	Hypersonic aerospace airframes, eternal medical implants
Steel-SGDM (Steel)	Friction $\mu \approx 0.002$, zero wear, 0% corrosion	Oil-free engines and bearings with 50-year service life
Cu-SGDM (Copper)	Conductivity $\times 100$ at +20°C, currents up to 10^8 A/cm ²	Lossless power lines, compact megawatt generators
Nd-SGDM (Neodymium)	Induction $B = 25$ – 40 T (+20°C), thermal limit 800 °C	50 kW micromotors (matchbox size), Maglev 1000 km/h
Au-SGDM (Gold)	Super-plasmonic contact, currents up to 10^9 A/cm ²	Non-burning microchips, space microwave waveguides
Si-SGDM (Silicon)	1000 GHz (1 THz) clock rate, zero thermal dissipation	Quantum 32-qudit processors, magnetless phase thrusters

5. SUB-ANGSTROM JET PROCESSING & PLANETARY DEFENSE

1) Graviton-Jet Nanopore Drilling (SGDM-Drilling): Operating without counter-deceleration, the 1+2 stream acts as a neutral needle (0.5 Å beam, 2400 km/s). Zero Coulomb charge prevents channel broadening (Aspect Ratio > 100,000 : 1). Enables direct drilling of stripper membranes (0.5 Å), gravity-flow water desalination membranes (3.0 Å, 100% Na⁺/Cl⁻ rejection), DNA sequencer chips, and atmospheric hydrogen sieves.

2) Directed Kinetic Planetary Defense Beam: When projected into space, the 1+2 beam penetrates heavy armor and asteroid bodies across thousands of kilometers, triggering internal topological phase collapse of target matter into harmless neutral micro-dust without radioactivity.

6. REFERENCES

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PATENT CLAIMS (SUBJECT OF PROTECTION)

1. A method for quantum-topological synthesis of supermaterials and subatomic jet processing, characterized in that it comprises generating a monochromatic stream of neutral neutronium clusters 1+2 (128 core) from hydrogen ¹H and embedding said clusters into the crystal lattice of a solid-state matrix to bind interatomic voids via nuclear-graviton binding forces of 10⁴-10⁶ N.
2. The method according to claim 1, characterized in that cluster embedding is conducted in a deep bulk hardening mode inside an SGDM-10⁸ reactor, increasing matrix density to 45-50 g/cm³, boosting hardness above 120 GPa, and raising melting point above 5000 °C.
3. The method according to claim 1, characterized in that cluster embedding is conducted in a surface scanning cladding mode forming a 5-50 μm modified layer reducing dry friction to μ ≈ 0.001-0.002.
4. The method according to claim 1, characterized in that component manufacturing is performed via additive layer-by-layer 3D-graviton printing by simultaneous nanopowder deposition and pulsed cluster 1+2 stitching.
5. The method according to claim 1, characterized in that operating without counter-deceleration, the 1+2 stream is utilized as a neutral graviton needle of 0.5 Å diameter for precision drilling of cylindrical nanopores with calibrated diameters of 0.5-3.0 Å without Coulomb broadening or thermal edge melting.
6. The method according to claim 1, characterized in that the collimated 1+2 beam is operated in a directed planetary defense mode for remote topological destabilization and dispersion of dense space bodies.

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