THE BERYLLIUM BEAM

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Authors of many annals on a history of discoveries like to give useful advice. If the official scientific community does not understand your ideas or, being guided by considerations of the moment, does not wish to accept them, then you should state popularly your ideas as science-fiction product. The plot of product, which we, maybe, will succeed in to write sometime, has arisen from the analysis of nuclear reactions between hydrogen and lithium.
According to all canons of nuclear physics, during these reactions four beryllium isotopes should be synthesized – $^{7}Be_4$, $^{8}Be_4$, $^{9}Be_4$ and $^{10}Be_4$.
Let's look at this nuclear arithmetic:
$^{1}H_1$ – protium (the stable isotope of hydrogen with one proton in a nucleus 1p)
$^{2}H_1$ – heavy hydrogen D (the stable isotope of hydrogen with one neutron and one proton 1n+1p)
$^{3}H_1$ – tritium T (almost the stable isotope of hydrogen with two neutron and one proto 2n+1p)
$^{6}Li_3$ – the stable isotope (3n+3p)
$^{7}Li_3$ – the stable isotope (4n+3p)
As a result of addition of protons and neutrons we have:
$^{1}H_1 + {}^{6}Li_3 = {}^{7}Be_4$ – short-lived isotope (half-life 53.29 days)
$^{1}H_1 + {}^{7}Li_3 = {}^{8}Be_4$ – it is absent in nature
$^{2}H_1 + {}^{6}Li_3 = {}^{8}Be_4$ – it is absent in nature
$^{2}H_1 + {}^{7}Li_3 = {}^{9}Be_4$ – the stable isotope
$^{3}H_1 + {}^{6}Li_3 = {}^{9}Be_4$ – the stable isotope
$^{3}H_1 + {}^{7}Li_3 = {}^{10}Be_4$ – long-lived isotope (half-life 1.6 million years)
Thus, in the nature there is only the stable $^{9}Be_4$ and barely perceptible traces of $^{10}Be_4$. The isotope $^{8}Be_4$ is absent, in spite of the fact, that the number of nucleons in a nucleus of this isotope is the magic number.
On the other hand chemical arithmetic gives the following result:
$^{2}H_1 + {}^{6}Li_3 = LiD$
The lithium deuteride LiD serves as the working substance in a hydrogen bomb.
Hence, it is possible to assume, that in the nature selective thermonuclear synthesis of separate atoms and molecules takes place:
$^{2}H_1 + {}^{6}Li_3 \rightarrow {}^{8}Be_4 \rightarrow$ EM- energy
or
$2({}^{2}H_1) + 2({}^{6}Li_3) \rightarrow 2LiD$ + pressure $\rightarrow$ EM- energy
Now there is a natural question – whether it is possible to preserve atoms $^{8}Be_4$ and molecules 2LiD in some protective casing to prevent spontaneous chemical and thermonuclear reaction.
Here we introduce into the plot the carbon fullerens and nanotubes, because some preconditions for realization of process of conservation really exist.
First, it is an opportunity of manufacturing of carbon nanotubes with necessary internal diameter and with necessary thickness of a wall. For example, internal diameter of nanotube C60 is equal 0.44nm, and cross-section size of atom of beryllium – 0.35nm.
Second, it is feature of fullerens and nanotubes to don't react chemically with the preserved atoms and molecules. Hence, the atoms of beryllium and lithium will not form the carbides Be_2C and Li_2C_2 inside fullerens and nanotubes.
Further we introduce into the plot the process of manufacturing of nanotubes.
For effective growth of carbon nanotubes the catalysts are required. For nanotube C60 the best catalysts are atoms of cobalt and nickel.
Let's look at the sizes.
External diameter of nanotube C60 is equal 0.7nm, internal – 0.44nm. The cross-section size of atoms of cobalt and nickel is equal 0.38nm. Typically also, that cobalt and nickel have identical face-centered cubic lattices, i.e. the facets of atoms are identical.

Therefore, we regard as, the formation of a wall of tube C60 begins around of atom of the catalyst. After formation of the first six-membered carbon ring, the atom of the catalyst "creeps out" of the ring and around of it the following carbon ring starts to be formed, etc.
But this model demands some mathematical specification.
The fulleren C60 contains 60 atoms of carbon. Its external diameter is equal 0.7nm, internal – 0.44nm (the same as nanotube C60). The surface of fulleren is arranged from 20 hexagons and 12 pentagons. Having calculated the mass of sixty atoms of carbon and volume of a spherical layer of the fulleren, we can find out density of carbon in this design. It is equal 8857 kg /m^3, that in 2.5 times is more, than the density of diamond, and in 4 times is more, than density of graphite. If to accept, that this fulleren contains only 24 atoms of carbon (as it is made in polytronic model) then the density of carbon will be equaled 3543 kg /m^3, i.e. will differ from density of diamond only for 0.9 percent.
So, we clarify itself with the sizes of a working cell of the future projector. It represents thick-walled carbon nanotube, inside which the molecules of lithium deuteride "are packed" into single row or, maybe, atoms $^8Be_4$.
Now we can deal with technological problems. It is necessary to make a matrix from these nanotubes by way of bee's honeycombs. One side of the matrix should be tightly closed by a strong plate from a heat-resistant material. The second side of the matrix should be open, but, thus, the end of everyone nanotube should be closed with fulleren cap.
The substrate for growing of nanotubes should be made of boron nitride BN. The boron nitride has layered (as graphitic structure) hexagonal crystal lattice, therefore a surface of crystal α-BN corresponds to conditions for formation of the matrix from hexahedral carbon nanotubes.
But before growing of nanotubes on the surface of the substrate the thin layer of beryllium carbide by thickness of one molecule should be put. Molecules of beryllium carbide will serve as quantum points for formation of the first six-membered rings from atoms of carbon. Process of growing of nanotubes should be carried out in rarefied gaseous lithium deuteride at temperature ~1000K. As a source of atoms of carbon the standard electro-arc discharge between graphite electrodes serves.
After growing of nanotubes till the required length, the substrate should be cooled. As a result of cooling, the molecules of lithium deuteride will change the sizes and will be fixed surely inside nanotubes. During same time, as a result of continued deposition of carbon, the ends of nanotubes will be closed with fulleren caps.
The made matrix should be inserted into a strong steel casing.
At last, the final constructive unit of beryllium projector is a detonator for start of selective thermonuclear synthesis. The detonator represents a radiator of gamma-quantums or, maybe, the laser. Gamma-quantums should have sufficient energy to evaporate the caps on the ends of nanotubes ends and to start process of selective thermonuclear synthesis:
LiD –> $^8Be_4$ –> EM-energy.

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We present our apologies to readers of our science-fiction plot for some omissions at the description of technological processes. But you should understand, that this information is inaccessible for alternate-researchers.