Engineering the Ni-H Bomb

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The anomalous heat production detected in Ni-H systems was recently explained based on the fact that electromagnetic fields of extremely-low frequencies (ELF) can increase the intensities of gravitational forces and overcome the intensity of the electrostatic repulsion forces, producing nuclear fusion reactions. This effect can provide a consistent and coherent explanation for anomalous heat production detected in Ni-H Systems, and shows that a Ni-H System can be easily transformed into a Hydrogen bomb. Here, a Ni-H bomb of 20 kilotons is engineered.

Key words: Modified theories of gravity, Nuclear Fusion**,** Fusion Reactors.
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1. Introduction

Recently, a large anomalous production of heat in a nickel rod filled with hydrogen has been reported by Focardi et al., [1]. This phenomenon was posteriorly confirmed by Cerron-Zeballos et al., [2].

Nuclear fusion can be produced by *increasing the gravitational forces in order to overcome the electrostatic repulsion forces between the nuclei*. This process became feasible after the Quantization of Gravity [3], with the discovery that the *gravitational mass* m_g can be made negative and strongly intensified by means of electromagnetic fields of extremely-low frequencies. This effect can provide a consistent and coherent explanation for anomalous heat production detected in Ni-H Systems, and shows that a Ni-H System can be easily transformed into a Hydrogen bomb [4]. Here, a Ni-H bomb of 20 kilotons is engineered.

2. Theory

Consider the Ni-H system showed in Fig. 1. In a previous paper [4] it was showed that, if the air inside the Nickel powder is evacuated by means of a vacuum pump (down to $P = 0.05 atm = 5.166\times10^3 N/m^2$ at temperature $T = 400K$) and after Hydrogen is injected into the Nickel powder, then, the number of Hydrogen atoms/m^3 inside the Nickel powder is

$$n_H = N_0 \rho_H / A_{H2} = 1.94\times10^{29}\rho_H \quad atoms/m^3$$

where ρ_H is the Hydrogen density; $N_0 = 6.02\times10^{26} molecules/kmole$ is the Avogadro's number and A is the molar mass.

Then, the number of atoms inside the Nickel powder is given by

$$n_H V_H = n_H S_f \delta_H \cong 8.3\times10^{24}\rho_H \alpha^2 \xi$$

where $S_f \cong 4\times10^3 \rho_{(Ni)} S_\alpha \xi$; $\rho_{(Ni)} = 8800 kg.m^{-3}$; $S_\alpha = \pi\alpha^2/4$ and $\delta_H = \Delta_{Ni} - \phi_{Ni} \cong 1nm$; ϕ_{Ni} is the diameter of Ni atom; Δ_{Ni} is the *average molecular separation* in the Ni.

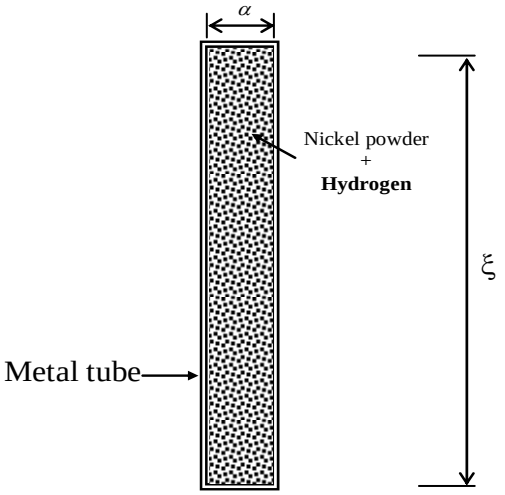

Fig.1 – *Ni-H system*. Note that, on Earth, the system is subjected to a 7.83 Hz electromagnetic field. This field is what naturally exists inside the *spherical resonant cavity* formed by the Earth's surface and the inner edge of the ionosphere. (Schumann resonance).

Thus, the total energy realized in the *protons fusions* is[*]

$$E = \frac{n_H V_H}{2} = \frac{8.3\times10^{24}\rho_H\alpha^2\xi}{2}(0.42MeV) \cong \quad (1)$$

$$\cong 1.7\times10^{30}\rho_H\alpha^2\xi \ eV \cong 2.7\times10^{11}\rho_H\alpha^2\xi \ Joules$$

It is easy to see that a Ni-H System can be transformed into a Hydrogen bomb, simply increasing the volume of the Ni-H cylinder and substituting the Hydrogen by *a liquid deuterium* LD (12.5 MeV of *energy* is produced at each fusion of two *deuterium nuclei* [†]). For example, if α = 0.27m, ξ = 2 m (See Fig.2), and, if a liquid deuterium ($\rho_H = 67.8 \ kg.m^{-3}$ [5]) is injected into the Ni powder, then the total energy realized in the fusions becomes

$$E = \frac{8.4\times10^{24}\rho_H\alpha^2\xi}{2}(12.5MeV) \cong \quad (2)$$

$$\cong 5.2\times10^{31}\rho_H\alpha^2\xi \ eV \cong 8.3\times10^{13} J \cong 20 \ kilotons$$

The Hiroshima's atomic bomb had *20 kilotons*.

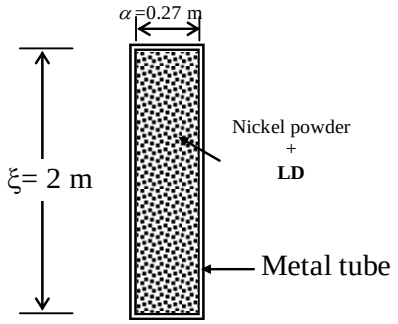

Fig.2 – The core of the Ni-H bomb of *20 kilotons.*

It is important to note that *this bomb type is much easier to build than the conventional nuclear bombs*. Basically, these bombs are made of *Nickel powder* (99%), *liquid deuterium* and *Mumetal*. These materials can be easily obtained. Due to the simplicity of its construction, *these bombs can be built at the very location of the target* (For example, *inside a house or apartment at the target city*.). This means that, in most of cases missiles are not necessary to deliver them, except for launching the Ni-H bomb at the height of explosion (<1Km [‡]) when necessary.

Thus, the Ni-H bomb so far seems to be the simplest atomic bomb ever to be built. *It can be made by every nation*, in such a way that, peace in the World will be reached in the future due to the equilibrium of forces among nations.

Figure 3 shows the Ni-H bomb. It is enveloped by a Mumetal box in order to avoid the action of the 7.83Hz electromagnetic field that naturally exists inside the *spherical resonant cavity* formed by the Earth's surface and the inner edge of the ionosphere. (Schumann resonance [6, 7]). *When the mumetal shielding is exploded the 7.83Hz electromagnetic field acts on the core of the Ni-H bomb and it explodes.*

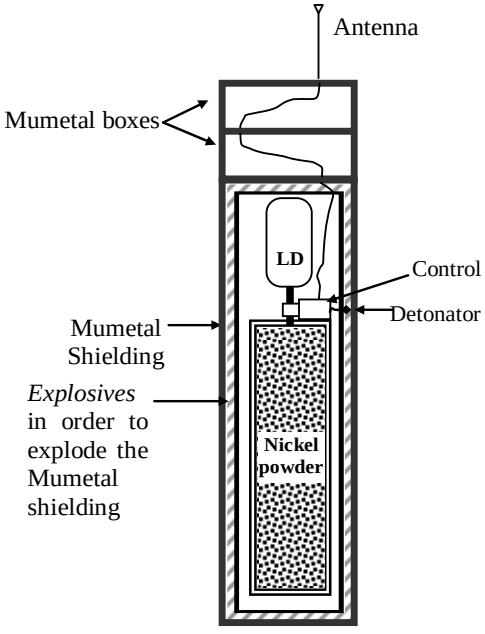

Fig.3 – The Ni-H bomb of *20 kilotons*.

[*] 0.42MeV are realized at each fusion of *two* Hydrogen nuclei.

[†] The *d* + *d* fusion reaction has two branches that occur with nearly equal probability: ($T + p + 4.03MeV$ and $^3He + n + 3.27MeV$). Then, a *deuteron d* is produced by the fusion of the proton *p* (produced in the first branch) with the neutron (produced in the second branch). Next, occurs the fusion of this deuteron with the *tritium T* produced in the first branch, i.e., ($d + T \rightarrow {}^3_2He + n + 17.6 \ MeV$). Thus, we count the *d* + *d* fusion energy as E_{fus} = (4.03+17.6+3.27)/2 = 12.5 *MeV*.

[‡] Hiroshima 600m above. Nagasaki 500m above.

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