

OOPS! The 5th paragraph, in the first Email I sent to you ascribed the mass of a **Proton** as **(1,836)** greater than a **Photon**,! That was in error. An Electron has **(1,836)** times the mass of a **Photon**. The **Proton** has **(9,180,000)** times the mass of a **Photon**

Dear Mr. David Kushner July 10, 2010

Re: Cluttered Space- Popular Science Aug 2010

Orbital **Electron/Proton** technology!

When you are talking about a vacuum, it makes more sense to talk about the use of a **Proton**-emitting device (gun), than a **Laser!**

The working particle of a laser is a **Photon**. *The **Laser** is effective when it is employed in an atmosphere, whereas a **Proton** beam is **NOT!** (unless it is used in extremely high voltages, as used in a particle accelerator), X-rays!*

*Most writers, in the science field, have a good knowledge of **Lasers!** Few, if any of them, (to my knowledge), know anything about **Electron/Proton** (use)!*

The following is an article I have authored, that I believe, contains the rationale for use of a **Proton** gun. In a vacuum, the **Proton** would be better employed in the clearance of orbital debris, not to mention extremely large destructive asteroids,

The working particle of an **Electron/Proton** device, (gun), is a **Proton!** The **Proton**-gun particle is **(9,180,000)** times heavier than the **Laser**-beam particle, and therefore, according to Einstein, ($E = MC^2$), is able to do much more work.

The optimum use, (for getting rid of the smaller particles), would be in a "*search & destroy*" mode! The "*Duck Hunter*" paradigm, (waiting for a particle to come into your purview, and then destroying it, (in my view), is an exercise in futility

The method, employed in the use of a **Proton** particle(s)/beam, negates any possible result of the "*Kessler Syndrome*", (the act of destroying the orbiting particle, itself creates even more debris). (Corrected 7-11-10)

April 23, 2009

Possible Method to COUNTER Asteroid Danger(s)

The suggestion on your **April 19, 2009, 7:00 P.M. History Channel**, that perhaps **Lasers** may be used to deflect the collision-orbit with the Earth!

Even though **Photons**, (the particle/wave), of which they are composed, purportedly, have **NO** mass, (of which I disagree), I hereby suggest that an **electron gun**, might be able to accomplish the task of diverting the orbit of an asteroid, far enough to miss the earth, because of the following:

ARGUMENT #1: If a **Photon** has **NO** mass, then directing the laser-beam onto the asteroid, would be much like a butterfly landing on an elephant. However, if a **trillion** butterflies land on an elephant, surely the weight of that elephant would be more than before!

According to a paper authored by **John K. Harms**, copyright **2006**, he has theorized that a **NEUTRINO** may be the opposite particle of a **PHOTON**, possibly a **PHOTON "Hole"**! It has been proven that a **NEUTRINO DOES** have mass! Then therefore, the **PHOTON MUST have mass !**

I **believe also**, that a **Photon DOES** have mass, however **infinitesimal**, for another reason. It has been shown, that **LASERS can** do work! By traveling at, or nearly the speed of light, such **boosts** that **mini, mini, minute** weight, **hundreds**, if **NOT thousands** of times heavier, [depending on the actual speed], according to $E = MC^2$.

CONCLUSION #1: Therefore, a **Photon (light), DOES** have mass!

ARGUMENT #2

The **Electron Gun** is the prime candidate to change the orbit, or **neutralize** the size or weight, of any given **ASTEROID** (more later on herein)! The **Electron Gun** produces **PROTONS**, as well as **Electrons**, by a process designated as **Thermionic Emission**. Basically it was the **Electrons**, which produced a picture on the T.V. sets.

Originally, the **Electron Gun** was **purposely** mis-aligned, and thus called a **"bent"** gun! A spring-loaded device, containing a magnet, was fitted around the neck of the T.V. Tube. This device was called an **ION-TRAP**. (**PROTONS** are a part of the ION class).

The **Ion-trap** was moved back and forth, while being rotated, over the area, which contained the first elements of the gun, **UNTIL** the stream of **ELECTRONS**, impacted directly, (produced a picture), **ON** the fluorescent screen of the Cathode Ray Tube (**CRT**).

NOTE: The title **"ION-TRAP**, was a misnomer. It had **LITTLE effect** on **IONS** or **PROTONS**. It had a great effect on the **ELECTRONS**, because the strength of the magnet was strong enough to bend the stream of **ELECTRONS**, but **NOT** the **IONS**! The **IONS/PROTON's mass is**, approximately **(1,836)** times greater than **ELECTRONS**.

The **ELECTRON's** mass is equal to **(5,000) Neutrinos**. A **Photon** has the same mass. As a **Neutrino**. Therefore, a **PROTON** has the **MASS** of **(9,180,000) NEUTRINOS/ PHOTONS**.

NOTE: The important part of **Cathode -Ray Technology**, taught that when you increase the voltages to the **Electron-gun**, you also increased the power of the **Electron Stream** in the Television sets. Therefore, **(by law)**, T.V. sets could **NOT** exceed **25,000** volts of **ANODE** voltage. That was near the beginning of generating **X_RAYS!**

This, now sets the stage, for the use of a **Cathode--Ray Gun** being used, to alter the orbit of any rogue **ASTEROID(s)**, which might threaten the existence of life, on Earth! The **Electron Gun**, could be fashioned to be built (suggestion), at **(100)** feet in length, with all the parts of controlling/elements/voltages, a commensurate size.

NOTE: NO glass bulb or any other material would be needed as an envelope, because the vacuum of space, will do very nicely!

Let us proceed with our task. Consider an **ANODE** voltage of **(250,000)** volts, with other applied voltages increased accordingly! **NOTE:** Normally-applied voltages for a typical **Electron Gun** are: Filament: **6.3 V AC @ 600 MA**; Cathode **-5 V** ; (G1) **10 to 30** volts ; (G2) **250 to 400 V** ; Focus Ring **0 to 300 V** ; Anode/Spit-anode **8,000/20,000** Volts.

We will **NO longer** call it an **Electron-Gun**. Now, it shall be called a **"PROTON" Gun**, because the **PROTONS ...**are going to do the work. We will position our **PROTON GUN**, an appropriate distance away, dependent on the size and/or rotation of the **ASTEROID**.

Let us start with a **(100)** yard distance, from a **50 ft.** diameter **ASTEROID**, which is rotating. The **PROTON GUN** may be **"fired"**, (activated), in a steady stream, or in a synchronized manner, so that one particular area of the **ASTEROID**, will receive the most **PROTON** bombardment!

This will put pressure on the asteroid to move away from the **PROTON Gun**, in the same direction, as the beam is directed from the **PROTON Stream!** **"For every action, there is an equal and opposite reaction!"** (Isaac Newton's 3rd law of Motion). This then, should result in the **ASTEROID being nudged enough to change orbit!**

An **ASTEROID**, which is **NOT** rotating, will receive a steady stream of **PROTON** bombardment, for **(2)** reasons. The first, as stated, ... to put pressure on the **ASTEROID** to change its orbit. The **(2nd)**, is to heat up the **ASTEROID**, in one particular spot, (especially if it contains a lot of **metal**).

In this case, an ancillary, **beneficial action**, takes place. When you heat a metal, in a vacuum, that metal will first melt, and then as it gets hotter, go into a vapor-like cloud. It will then look for a cooler place, to solidify again, as a continuous piece of metal.

NOTE: This process, routinely done in vacuum technology, is known as **SPUTTERING/ALUMINIZING**. It was normally done, in the manufacture of **T.V. Tubes**, because all **CRT's** started to employ **"straight guns"**. **Vaporizing/solidifying** the aluminum shield

over the screen, slows down the “burning” of the fluorescent screen, which otherwise would present an unwelcome, never-disappearing, colored screen. This would be the resultant of the heavy bombardment, from the “PROTON/ELECTRON GUN”.

The ELECTRON/PROTON stream is powerful enough to penetrate the Aluminum screen initially, but NOT powerful enough to bounce back out. NOTE: By putting an aluminum shield over the Phosphor coating, such causes almost all the light generated from the phosphor particles, to be sent forward, (toward the viewer), thus providing a brighter picture!

In a CRT, when the electron beam is focused and the sweep circuits are not used, the electron beam would not only burn through the aluminum, but also burn a hole in the glass itself!

The purpose of this explanation was to show, that it is possible to decrease the weight/bulk of an ASTEROID. This serendipitous side-effect makes the pressure exerted by the PROTON stream, even more effective/meaningful!

Back to Asteroid Control! Since there is NO envelope, NOR place to solidify, the atoms will continue to disperse disappear forever, into the void. Sounds like the Buck Rogers Disintegrator Gun or Flash Gordan's BLASTER!

CONCLUSION # 2

(1) PROTON has the MASS of (9,180,000) PHOTONS, (the Photon is the energy source of a LASER). Therefore, the use of a PROTON/ELECTRON Gun, has a far better chance, to alter the orbit of an errant ASTEROID, than a LASER.

BUT, consider (2) other alternatives:

You could use a nuclear bomb to explode the asteroid, either changing the course of the asteroid, (for every action, there is an equal and opposite reaction), or blowing it up into smaller asteroids, and have an asteroid shower of lesser lethality pieces, than a mountain-size asteroid.

It has been argued, that even though the asteroid WAS blown up, the totality of the remaining pieces, would still have the destructive action of the WHOLE original asteroid, and that indeed would be correct EXCEPT!.....

I REJECT this theory because of the following:

1) The asteroid, (being in the vacuum of space), on being blown up, (into smaller pieces), would fly apart equally, into ALL directions. Therefore the majority of those pieces, would be deflected away from the Earth and could NOT impact the earth!

That action would significantly reduce the balance of the mass of the Asteroid, which COULD still impact the Earth.

2) Many of the smaller pieces would burn up, upon hitting the Earth's atmosphere, which action, would also effectively, reduce the totality of the mass, of the original Asteroid.

NOTE: An **Asteroid**, believed responsible, [for wiping out the dinosaurs, some (65) Million years ago], was about (6.2) miles in diameter! A more recent **Asteroid** strike, (**June 30, 1908**), called the **Tunguska Event**", **tens of meters wide**, exploded in our atmosphere, (an **air-burst**), causing trees, up to (10) or more miles away, to be blown over, in a **circular** array!

This writer believes that, that **asteroid** was **composed mostly of ice** because **NO** trace of it, (in the **center** of the effected circle), was ever found!

April 13, 2009, **Discovery News** reporter **Irene Klotz**, cites **NASA**, (which maintains an **Asteroid Watch**"), as reporting that an **Asteroid**, about the size of a (25)-story building, will approach the earth. This **Asteroid**, named "Apophis", will come within (18,000) miles of Earth, on this the first go-around, [**It will be back**].

Geo-stationary satellites, (unlike stars or other celestial objects), part of our **Global Network Communication System**, **ALWAYS appear** in the same spot. They are fixed in orbit at (22,300) miles! **Apophis will actually come closer**, than they are!!

Finally, you might even consider landing **ON** the **ASTEROID** itself, and attaching a rocket booster of some kind, so as to provide enough energy to **NUDGE** /**induce** an orbital change, so that It would **MISS** hitting the Earth and fly out to deep space!.....**HUH ! ? !**

For my **Pedigree** see www.cifaldi.org

Yours truly,

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