

APRC

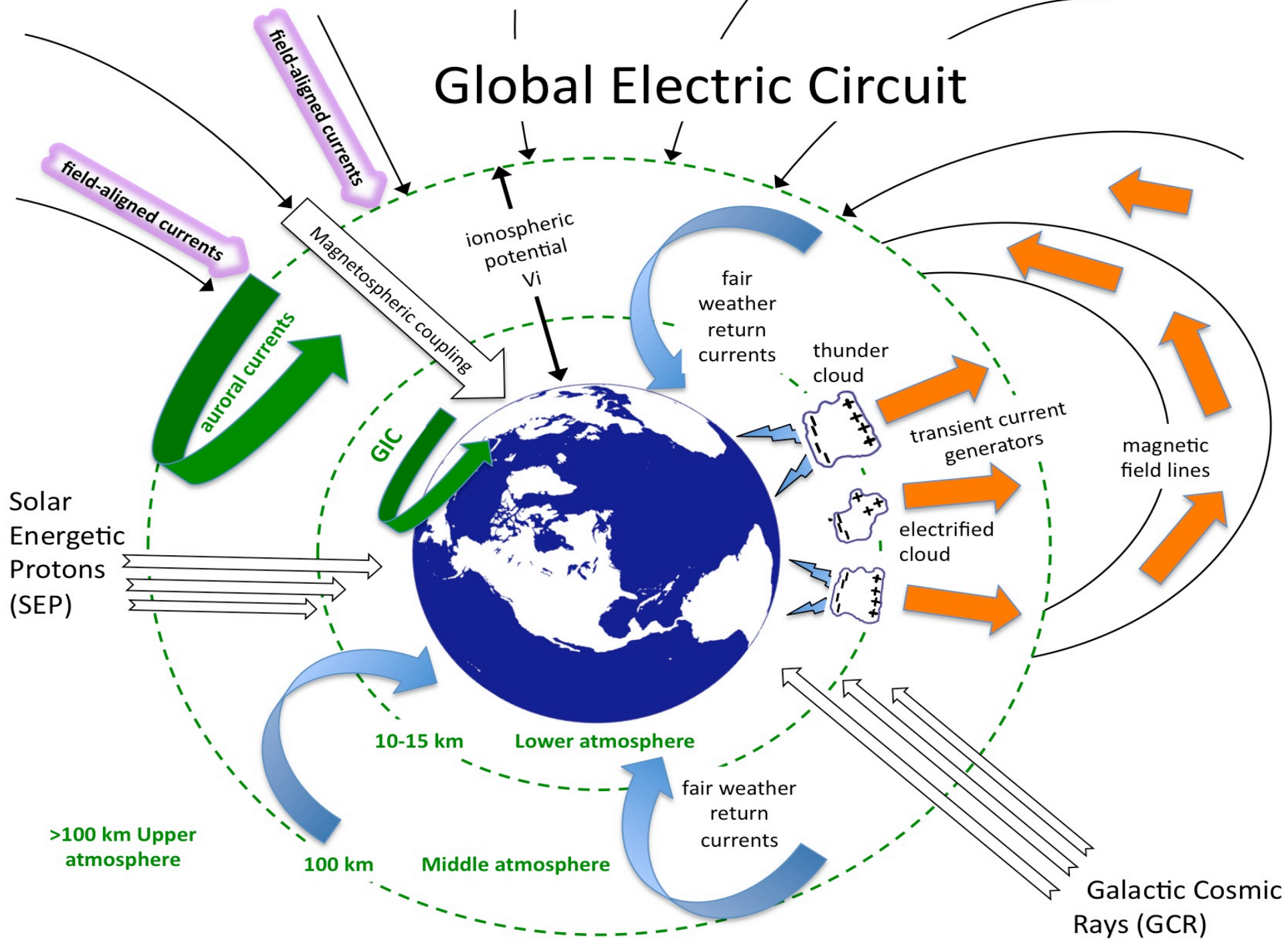
DR. ASSOUN PLASMA RADIATIVE CATASTROPHE at LEO-GTO

THEORY AND PRACTICE
TERMINATORR PROGRAM

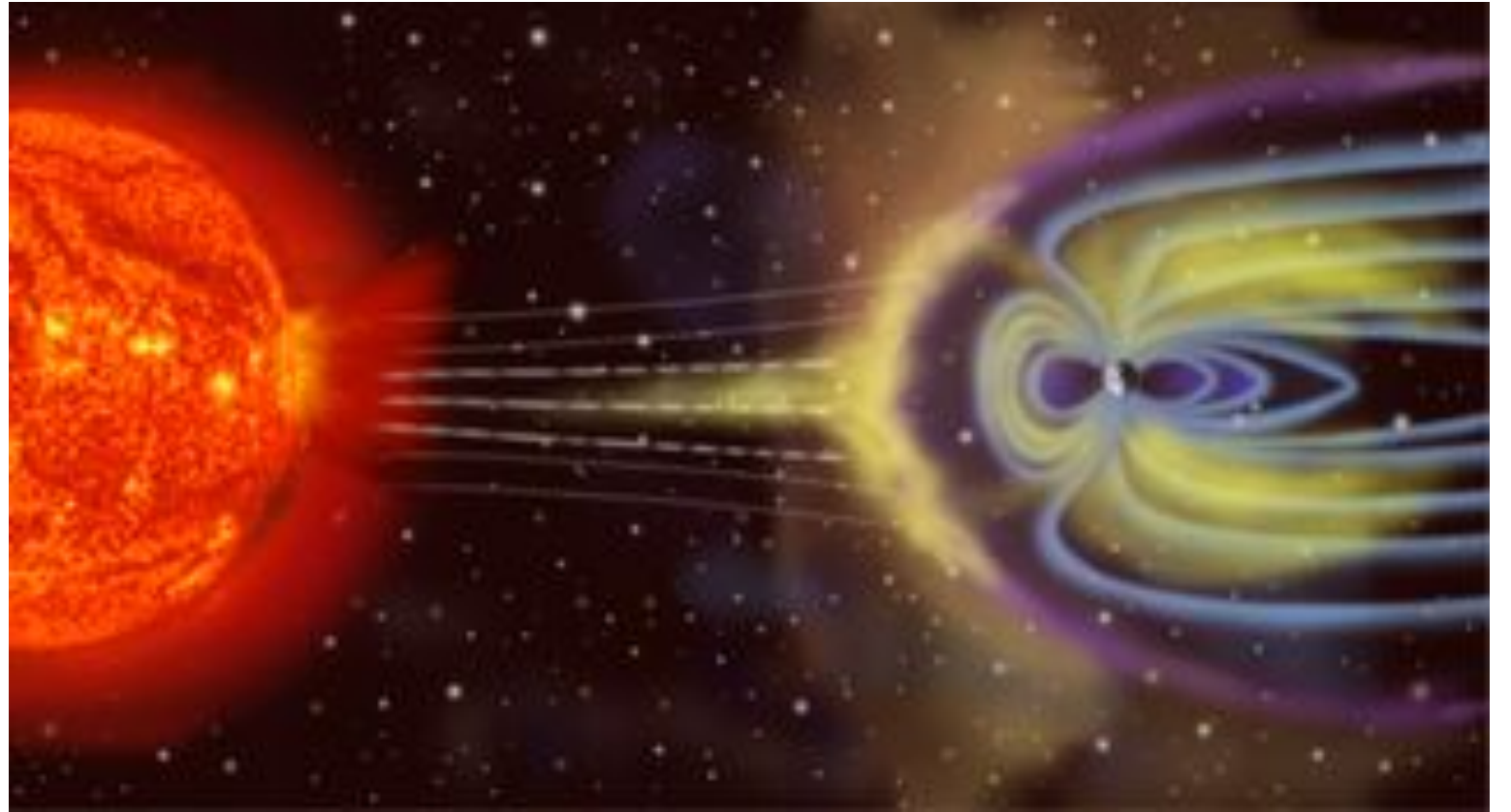


GLYCAN SPACE XR
MEMBER OF GLYCAN GROUP

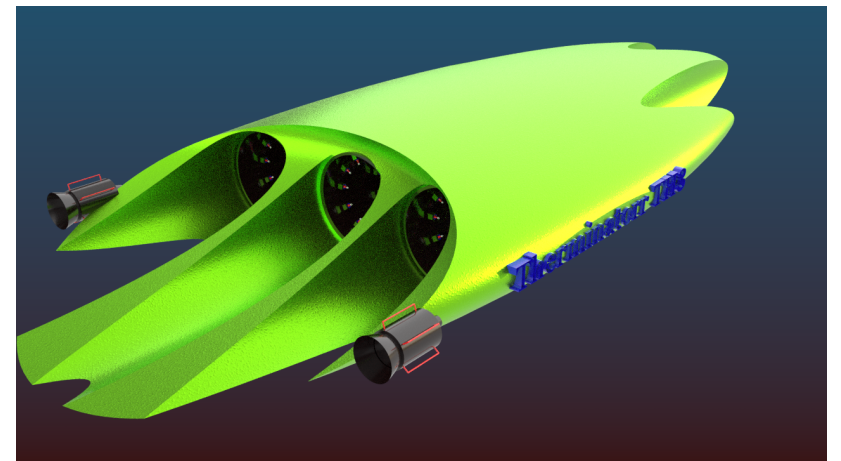
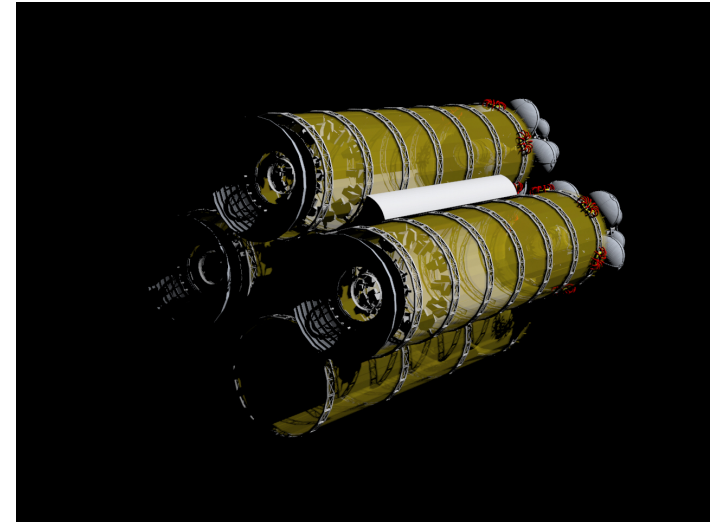
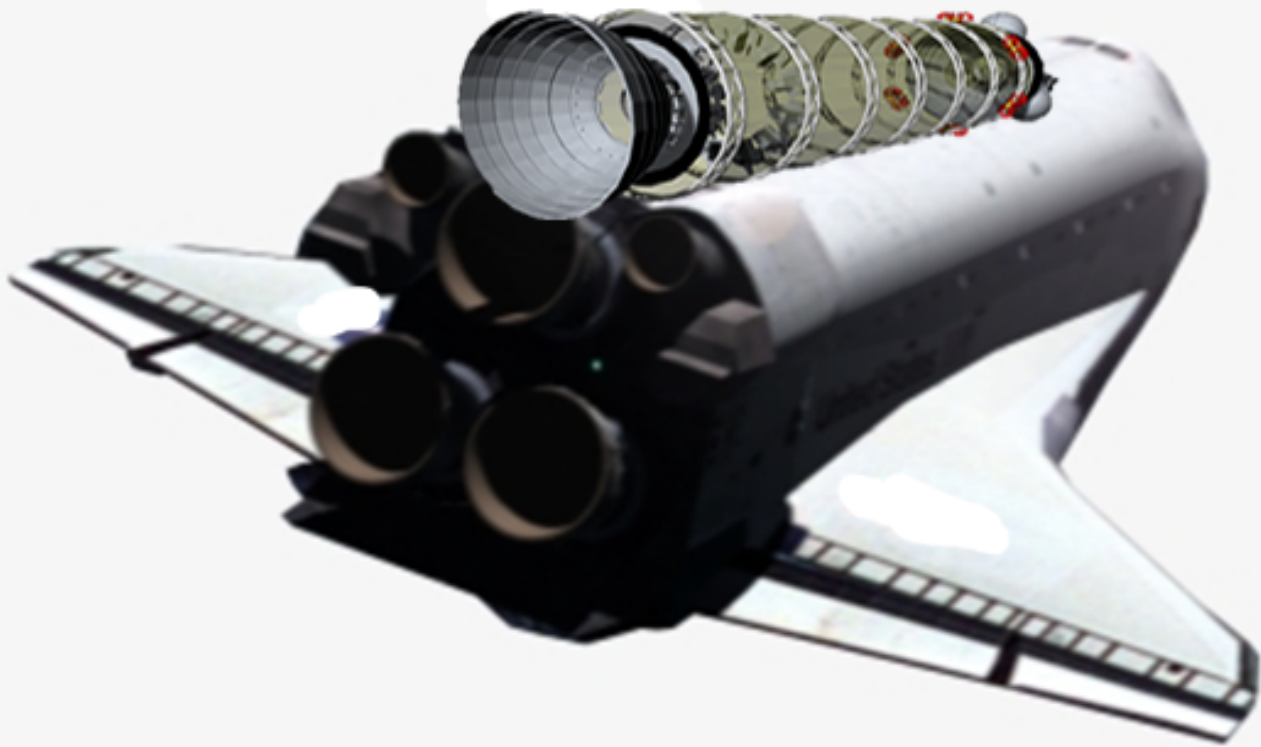
Global Electric Circuit



Magnetic field



TERMINATOR TH3
SHUTTLE



TECHNICAL AND SCIENTIFIC NOTE:

<https://fas.org/publication/how-do-you-clean-up-170-million-pieces-of-space-junk/>

[How do you clean up 170 million pieces of space junk? - Federation of American Scientists \(fas.org\)](#)

- ∞ SOLAR MAGNETIC FIELD-SUN FLARES (contributor)-EARTH Magnetic response
- ∞ SEP Solar Proton Particles (contributor)

Observables contribution to the RADIATIVE CATASTROPHE in the CLOUD of space debris mm(size) and inferior pico-size and femto-size.

| Prefix | Value | Abbreviation |
|--------|------------|--------------|
| atto- | 10^{-18} | a |
| femto- | 10^{-15} | f |
| pico- | 10^{-12} | p |
| nano- | 10^{-9} | n |

We will explain later, how to transform NEWTONIAN configuration(operators) of the cloud in:

QUANTUM MECHANICS EVENT (Thermodynamic Equilibrium stages as NLTE-LTE-PLTE) (Radiative catastrophe) observables APRC.

(ASSOUN PLASMA RADIATIVE CATASTROPHE):

- KESSLER SYNDROME IS NEWTONIAN EVENT IN THE SPACE DEBRIS CLOUDS(COLLISION) $v=7\text{kms}^{-1}$ to 10 kms^{-1}
- ASSOUN PLASMA CATASTROPHE IS A QUANTUM RADIATIVE EVENT IN THE SPACE DEBRIS CLOUDS

SOLUTIONS

www.space-debris-remediation.com

FEDERATE  colleagues they hunt and capture debris we will **TERMINATE** the job at LEO or GTO.

Federate_13.02.202
4_Sg.pdf

TERMINATORR TH3 PLASMA MACHINE



Prototypes_Novemb
er4.11.2022.pdf

Others solutions proposed:

- NET-HARPOONS-ARROWS. Not applicable for the target remediation for 800-1300 objects to be neutralized **PER YEAR**
- LASERS ground base or embarked

Considered as RUSSIAN ROULETTE !

Creation of billions or trillions of debris inferior nano and pico size!

This LASER action will contribute to the stage of Quantum Radiative Catastrophe

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REFERENCES: TECHNICAL AND SCIENTIFICS-POLITICS CONSIDERATION

GENERAL COMMENT

Differences of scientific bases between KESSLER syndrome and ASSOON Syndrome.

Kessler syndrome NASA:

https://www.google.com/search?q=kessler+syndrome&oq=kessler+syndrome&gs_lcrp=EgZjaHJvbWUyCQgAEEUYORiABDIGCAEQIxgnMgclAhAAGIAEMgclAxAAGIAEMgclBBAAGIAEMgclBRAAGIAEMgclBhAAGIAEMgclBxAAGIAEMgclCBAAGIAEMgclCRAAGIAEqAllsAIB&sourceid=chrome&ie=UTF-8

Kessler syndrome is a NEWTONIAN concept.

The debris of different size 10 cm to -1mm and inferior at 1 mm(nano to fp)

The major part of the equation is related to $1/2mv^2$.classical Newtonian mechanics)

The velocity (7 kms-1 to 10 kms-1) of the related debris are located to 700 km to 2000 km (LEO)

At GTO 35,786 km, the velocity of debris is quite null.

The kinetics are quite simple-the corresponding energy can be calculated in Joule for the NEWTONIAN

The system is under CGS. we consider light velocity $c=300'000 \text{ kms-1}$ (3.10^{10} cms-1)

The classical Hamiltonian is:

$$H = p^2/2m + V(x)$$

The goal is to demonstrate that a NEWTONIAN observables can be transformed into RADIATIVE matter observables and operators.

The initial velocities 7 kms- to-10 kms-1 cannot use the in radiative concept.

Because if we consider the mass of 1mm size of Aluminium, this mass cannot reach in Radiative Plasma (ITSELF).

NLTE-PLTE-LTE because the matter in this state is quite stable but EXTERNAL Magnetic Field and plasma created by the SOLAR CORONAL and Cosmic rays and proton flux (SEP).

With $eV=kT$ kinetics relation with TK

Therefore CORONAL plasma even at millions of kms of distance of the sun and induced magnetic field will creates Thermodynamics conditions in order to transform atoms at solid state in IONIZED state with RADIATIVE emission, if the shape of is confined in toroidal section.

[https://www.google.com/search?](https://www.google.com/search?q=coronal+temperature+in+the+solar+system&oq=coronal+temperature+in+the+sola&gs_lcrp=EgZjaHJvbWUqBwgBECEYoAEyBggAEEUYOTIHCAEQIRigATIHCAIQIRigATIHCAQIRigATIHCAQQIRifBTIHCAUQIRifBTIHCAQIRifBTIHCAcQIRifBTIHCAgQIRifBdIB CjI5NzE0ajBqMTWoAgIwAgE&sourceid=chrome&ie=UTF-8)

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<https://www.nasa.gov/science-research/heliophysics/nasas-parker-solar-probe-and-the-curious-case-of-the-hot-corona/>

PROTONS of high energy SEP

[https://www.google.com/search?](https://www.google.com/search?q=solar+protons+of+high+energy&oq=&gs_lcrp=EgZjaHJvbWUqCQgAECMYJxjqAjlJCAAQlxgnGOoCMgkIARajGCcY6glyCQgCECMYJxjqAjlJCAMQlxgnGOoCMgkIBBAjGCcY6glyCQgFECMYJxjqAjlJCAYQlxgnGOoCMgkIBxajGCcY6gLSAQkxMzQ0ajBqMTWoAgiwAgE&sourceid=chrome&ie=UTF-8)

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Solar heavy particles

[https://www.google.com/search?](https://www.google.com/search?q=solar+heavy+particles&oq=solar+heavy+particles&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRifBTIHCAIQIRifBTIHCAMQIRifBTIHCAQQIRifBTIHCAUQIRifBTIHCAAYQIRifBTIHCAcQIRifBTIHCAgQIRifBTIHCAkQIRifBdIBCjlyMjcwajBqMTWoAgiwAgE&sourceid=chrome&ie=UTF-8)

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X, gamma , high energy radiation

[https://www.google.com/search?](https://www.google.com/search?q=Gamma+X+rays+radiation+from+the+Sun&oq=Gamma+X+rays+radiation+from+the+Sun&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIKCAEQABiABBiiBDIKCAIQABiABBiiBDIKCAMQABiABBiiBDIKCAQQABiABBiiBNIBCjI4NDU0ajBqMTWoAgiwAgE&sourceid=chrome&ie=UTF-8)

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SUN as accelerator of particles

[https://www.google.com/search?](https://www.google.com/search?q=sun+as+accelerator+of+particles&sc_esv=d37a15596c35d05b&sxsrf=ADLYWII_1MfK2WOYa88tn_qikTOoFCKStw%3A1720450503822&ei=x_2LZtzmYvgkdUPjLm6qAQ&oq=&gs_lip=Egxn3Mtd2l6LXNlcnAiACoCCAAYBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBATIUEAAYgAQYkQIYtAIYigUY6gLYAQEyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBAUjB3g9QAFgAcAJ4AJABAJgBAKABAKoBALgBACgBAPgBAZg6AqACFagCD5gDDroGBggBEAEYAZIHATKgBwA&sclient=gws-wiz-serp)

[q=sun+as+accelerator+of+particles&sc_esv=d37a15596c35d05b&sxsrf=ADLYWII_1MfK2WOYa88tn_qikTOoFCKStw%3A1720450503822&ei=x_2LZtzmYvgkdUPjLm6qAQ&oq=&gs_lip=Egxn3Mtd2l6LXNlcnAiACoCCAAYBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBATIUEAAYgAQYkQIYtAIYigUY6gLYAQEyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBAUjB3g9QAFgAcAJ4AJABAJgBAKABAKoBALgBACgBAPgBAZg6AqACFagCD5gDDroGBggBEAEYAZIHATKgBwA&sclient=gws-wiz-serp](https://www.google.com/search?q=sun+as+accelerator+of+particles&sc_esv=d37a15596c35d05b&sxsrf=ADLYWII_1MfK2WOYa88tn_qikTOoFCKStw%3A1720450503822&ei=x_2LZtzmYvgkdUPjLm6qAQ&oq=&gs_lip=Egxn3Mtd2l6LXNlcnAiACoCCAAYBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyBxajGCcY6glyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBATIUEAAYgAQYkQIYtAIYigUY6gLYAQEyFBAAGIAEGJECGLQCGloFGOoC2AEBMhQQABiABBiRAhi0AhiKBRjqAtgBAUjB3g9QAFgAcAJ4AJABAJgBAKABAKoBALgBACgBAPgBAZg6AqACFagCD5gDDroGBggBEAEYAZIHATKgBwA&sclient=gws-wiz-serp)

The Sun is an efficient particle accelerator: it can release several tenths of the available energy (stored in stressed magnetic fields) in high-energy nonthermal particles: it can promptly accelerate electrons to energies in excess of 100 MeV and ions to energies ~ 1 GeV/nuc./(nuclei)

With **radiative concept** one can easily explain the state of solid state(Newtonian) to a radiative state(Quantum and Radiative state).

Several severe conditions(Magnetic Field and Radiation, can ignite the stable metals(space debris) small size debris 1mm or inferior, into several plasma state(NLTE,PLTE,LTE) the duration is very short 10^{-9} s .with radiative ignition

The Hamiltonian is quite easy to be established.

We can consider the space debris as a TOROID shape with several magnetic interferences.

When the plasma is ignited, we can calculate the densities(n_i) of the species ionized SAHA Boltzmann densities.

Experimental EVENT:

With mm/ mg dimensions and weight the CLOUD of very small debris inferior to 1mm or 1 mg or much less can be ignited by external stressing conditions SOLAR and Cosmic conditions , the toroidal shape is the best configuration in order to confine the future plasma a deliver the radiative packet of waves

Indeed the metals alloys of defunct or destroyed satellites are not fully paramagnetic ones, most of them are diamagnetic ones, and the Magnetic Force is quite null onto them, but electrostatic force can act even at 1000 km of altitude.

We can speak about radiation pression, when quantum packet of waves collide with CLOUD of debris species.

The smallest dimensions are completely favorable in order to be heated by solar shock SEP (protons flux)

We can consider pico and femto or atto dimensions as critical one under magnetic field, and proton flux and the kinetics of Cosmic Rays and heavy particles.

The species densities n_i ionized atoms are approximative $10^{13} / \text{cm}^3$ to $10^{17} / \text{cm}^3$ in the SAHA Boltzmann equation.

We can consider also the presence of $^3\text{He}^4$ atoms to be mentioned in the nuclear fusion capabilities of the TOROIDAL section. (confinement -Magnetic stress – radiation pressure of SEP, cosmic waves....) we have neglected the Solar System velocity in our Galactic milky way.

Therefore the Cloud of Space debris can be confined-ionized-and accelerated under MHD-MGD Solar tools.

The only question is when the parameters will be critical and nearest the ignition time inside the cloud ?

In others words, the job in order to treat small debris inferior to 1mm – 1 cm , this action will eliminate the risk of Catastrophe- Newtonian or Radiative.

× 10⁻⁹

× 10⁻¹²

× 10⁻¹⁵

EARTH MAGNETIC FIELD

<https://science.nasa.gov/science-research/heliophysics/alphabet-soup-nasas-gold-finds-surprising-c-x-shapes-in-atmosphere/>

Metric Prefixes smaller

| prefix name | symbol | multiplier |
|--------------------|---------------|-------------------|
| deci- | d | $\times 10^{-1}$ |
| centi- | c | $\times 10^{-2}$ |
| milli- | m | $\times 10^{-3}$ |
| micro- | μ | $\times 10^{-6}$ |
| nano- | n | $\times 10^{-9}$ |
| pico- | p | $\times 10^{-12}$ |
| femto- | f | $\times 10^{-15}$ |
| atto- | a | $\times 10^{-18}$ |
| zepto- | z | $\times 10^{-21}$ |
| yocto- | y | $\times 10^{-24}$ |

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