THE MARTIAN REVELATION

OCTOBER 17TH 2020

DR. JACK SARFATTI

The Truth Is Out There?

States even the US Navy isn't certain what is going on the Navy did just

NAVY DRAFTING NEW RULES FOR REPORTING UFOs

THE TRUTH IS OUT THERE?

PRESIDENT TRUMP SAYS HIS ADMIN HAS MADE "A TREMENDOUS AMOUNT OF PROGRESS" IN HANDLING

0:03 / 5:09
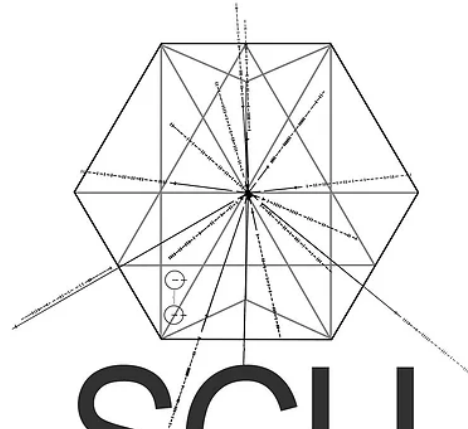
Tucker Carlson 4/24/19: Navy Drafting new Rules for Reporting UFOs

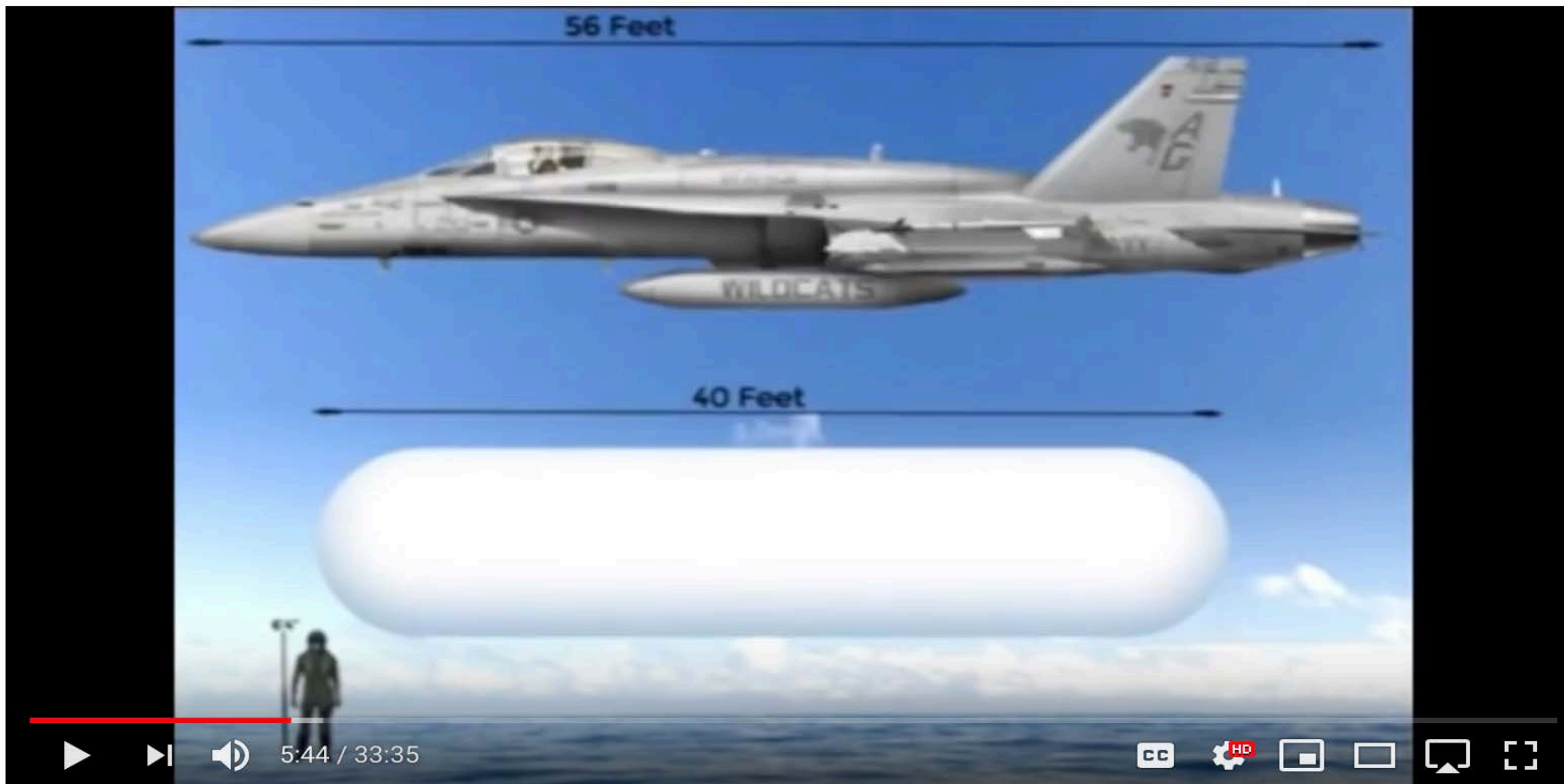In any field find the strangest thing and and then explore it.

John Archibald Wheeler

https://www.explorescu.org/post/nimitz_strike_group_2004

Edition 1: Dr. Jack Sarfatti on the Physics of the 'Tic Tac' UFO

5,146 views

The Stardrive Report
Published on Dec 29, 2018

SUBSCRIBED 389

PAUL R. HILL

UNCONVENTIONAL FLYING OBJECTS

a scientific analysis

$dr_2 = ds \cos\theta_2$

$s_a = \dfrac{c/a}{31.5576 \times 10^6}\left(\sqrt{1 + (a't/c)^2} - 1\right)$

$= \sinh^{-1}(a't/c)$

$\dfrac{a't \, dt}{\sqrt{1 + (a't/c)^2}}$

$s_a = \displaystyle\int_0^t \dfrac{a't \, dt}{\sqrt{1 + (a't/c)^2}}$

$s_a = \displaystyle\int_0^t v \, dt$

$dr_1 = ds \cos\theta_1$

$(a't/c)^2 - 1$

JACK SARFATTI

BACK FROM THE FUTURE

WORKSHOP ON THE PHYSICS OF LOW ENERGY WARP DRIVE AND CONSCIOUS AI AS REVEALED BY US NAVY "TIC TAC" DISCLOSURE

DATE:
30/11/2019

TIME:
9.30-12.30
COFFEE BREAK
13.30-16.30
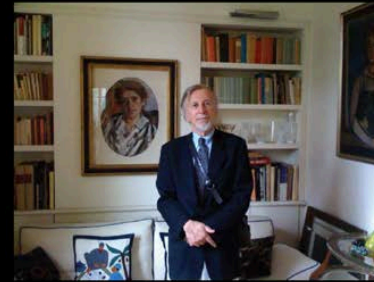
PLACE:
Centro Convegni Sant'Agostino - Cortona - ITALY

INFORMATION AND BOOKING:
MAIL: apa.propulsions@gmail.com
PHONE: 0039/392/5130132

APA - www.apapropulsions.cloud

Warp Wormhole Tic Tac Weaponry

Renders Conventional Jet/Rocket Propulsion Obsolete

US Space Force

Needs Tic Tac Tech

Hal Puthoff, Jack Sarfatti, Kit Green, Oct 28, 2017 London Temple, Bohm Centennial

'A VALUABLE DOCUMENT AND VERY READABLE.'
— Adam Ulam, *New York Times Book Review*

PAVEL AND ANATOLI SUDOPLATOV
with JERROLD L. AND LEONA P. SCHECTER

SPECIAL TASKS

"The most sensational, the most devastating, and in many ways the most informative autobiography ever to emerge from the Stalinist milieu."

FROM THE NEW FOREWORD BY ROBERT CONQUEST

UPDATED EDITION
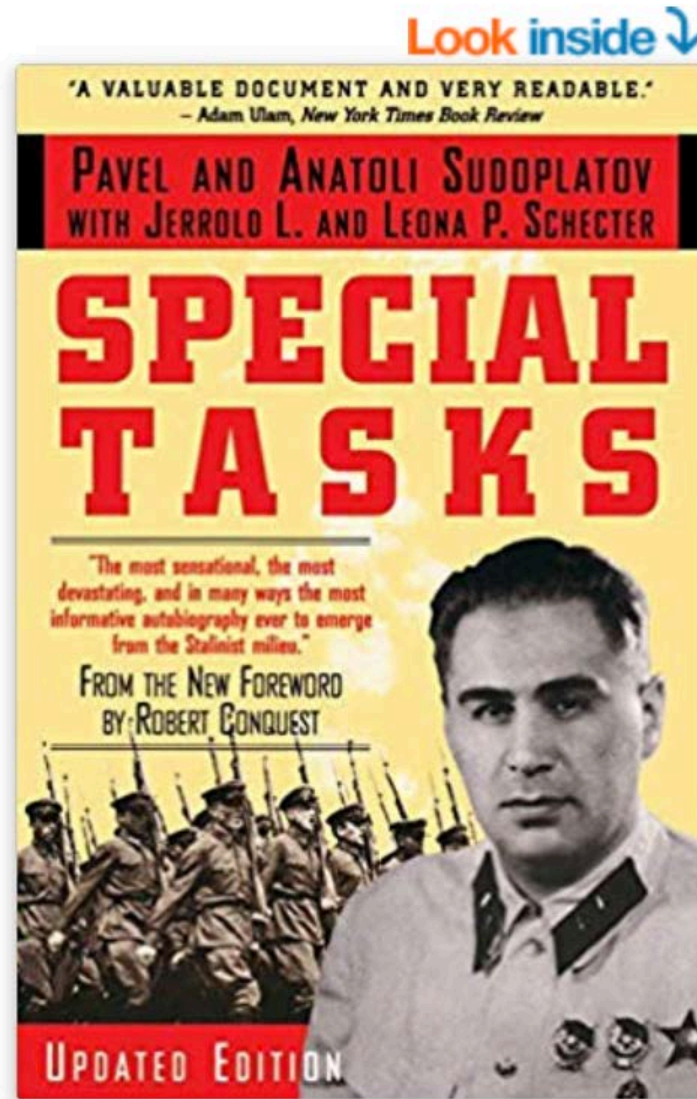
I am cited in this edition on Niels Bohr and how Stalin got the bomb.

Allegedly Vladimir Putin himself ordered FSB to video me not once but twice. First about the physics. Later, June 2016 about then candidate Donald Trump. Why ask me? Good question.
https://tinyurl.com/wwyr5c9

Welcome to everybody who's come to this rally for a strong Russia.

VESTI

▶ ▶| ◀)) 0:37 / 8:08

ⓘ VGTRK is funded in whole or in part by the Russian government. Wikipedia ↗
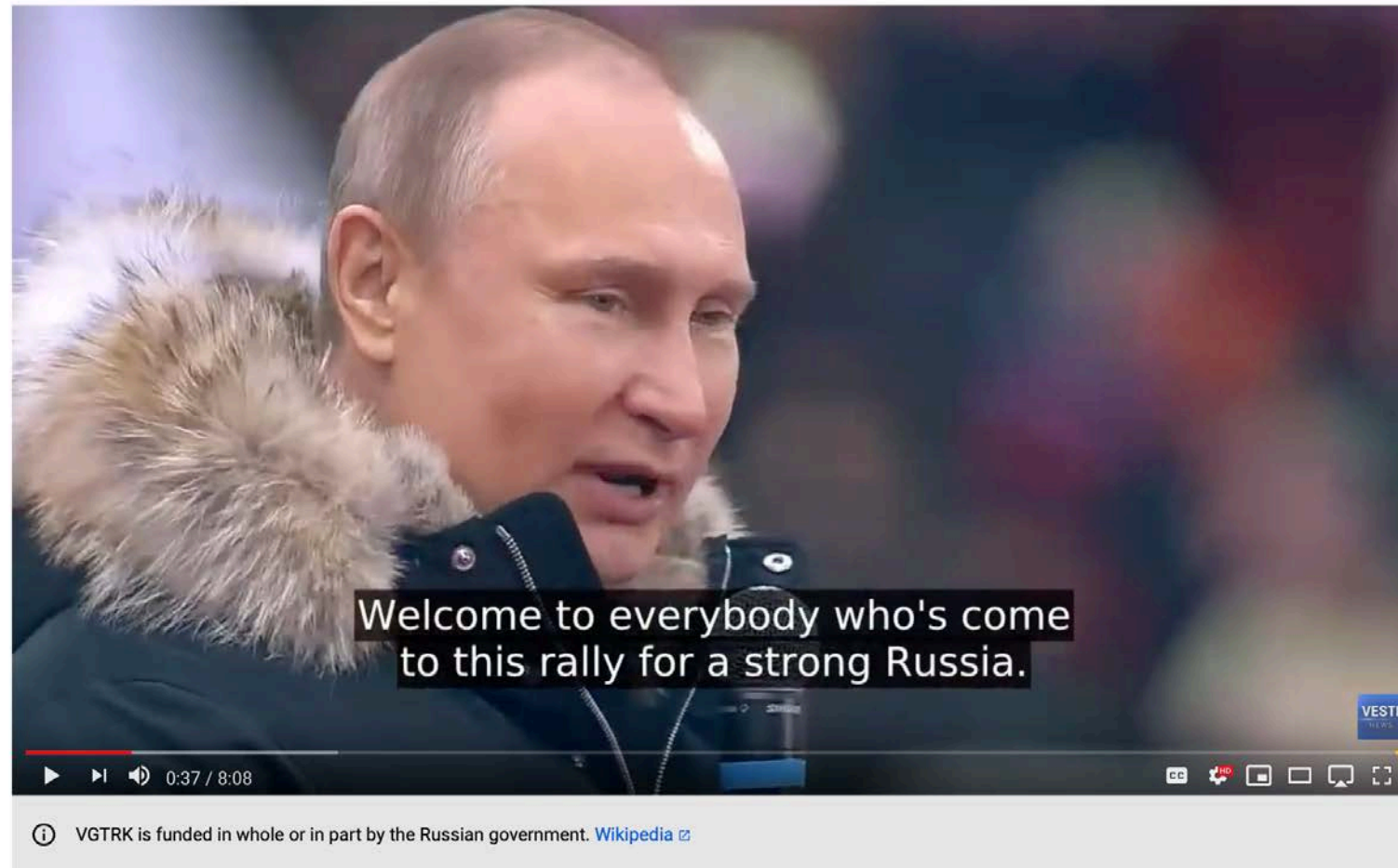
Putin and Russian Olympic Team Sing National Anthem Together

Сам себе Трамп

Он действительно яркий. Трамп даже родиться умудрился вовремя. Во вторник ему исполнилось 70 лет. Казалось бы - когда еще придется отметить круглую дату при таком внимании миллионов к твоей персоне. Впрочем, шумных торжеств не было. Может, деньги бережет. Может, не спешит хвастаться.

Ведь до сих пор самым старым президентом, вошедшим в Овальный кабинет, был Рональд Рейган. Ему было 69 лет. Сейчас 69 - Хиллари. Трамп и здесь, получается, впереди. Сегодня его имя в топе новостей. Одних перспектива увидеть такого президента ужасает, других — забавляет. Кажется никто так и не понял, что он всерьез нацелен взять эту высоту. Точнее так: всерьез намерен доказать, что вот такого, как он, тоже могут выбрать в президенты.

Сам себе Трамп

19.06.2016

Он действительно яркий. Трамп даже родиться умудрился вовремя. Во вторник ему исполнилось 70 лет. Казалось бы - когда еще придется отметить круглую дату при таком внимании миллионов к твоей персоне. Впрочем, шумных торжеств не было. Может, деньги бережет. Может, не спешит хвастаться.

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08:19　　　　　　　　　　　　　　　　09:58

US Navy Close Encounters

With low energy warp drive space ship
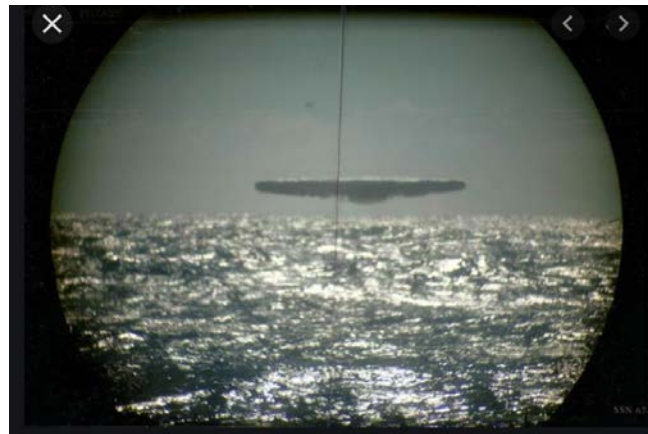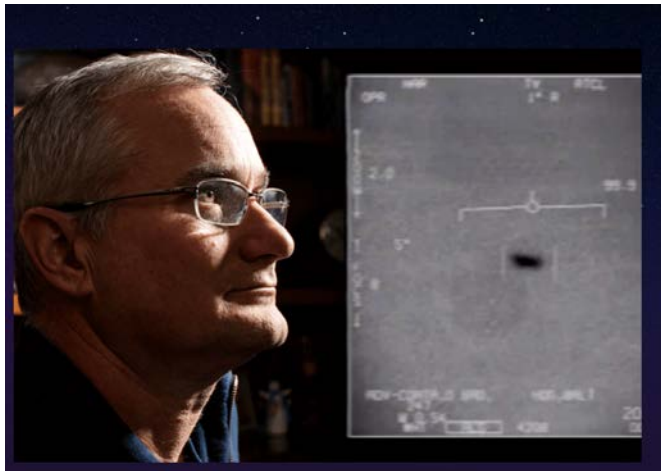
On Jul 11, 2020, at 1:44 PM, Pierre R wrote:

I am a commercial pilot.

I am working for XXXX (yyyy, then became a pilot after that)

Both of my parents worked for Air France, and **my Grandfather was a 4 Star general in the French Air Force**. He was in charge of the FATAC, the air tactical projection force. I grew up with his flight stories. **He told me back in the 1960's he was scrambled to intercept an unknown radar echo. They intercepted an oblong cylinder shaped object with no windows, no control surfaces. The object flew away reaching crazy speeds within seconds, never to be seen again.**

I guess that is why I am intrigued by all this.

Excellent reason, Season 2, Episode 1 of UNIDENTIFIED, HISTORY CHANNEL, has more evidence supporting the French General Rajau.

Star Gate Portal at Skinwalker Ranch?

The math physics of Tic Tac also explains this.

The Secret of Skinwalker Ranch: MOUNTAIN OF UFO EVIDENCE UNCOVERED (Season 1) |
History

Meta-Materials

Magick Without Magic

- "Metamaterials with interacting "meta-atoms" ... The building blocks of metamaterials are resonant elements much smaller than the wavelength of the electromagnetic wave and can be seen as "artificial atoms" with strong electric and/or magnetic response to the electromagnetic radiation." https://www2.physics.ox.ac.uk/research/condensed-matter-physics/metamaterials-with-interacting-meta-atoms

Fig. 14.3. Photograph of nonlinear metamaterial. Each SRR in metamaterial contains varactor diode (Skyworks SMV1405)

Spacetime Metamaterials

Christophe Caloz, Zoé-Lise Deck-Léger

(Submitted on 2 May 2019 (v1), last revised 5 May 2019 (this version, v2))

This paper presents the authors' vision of the emerging field of spacetime metamaterials in a cohesive and pedagogical perspective. For this purpose, it systematically builds up the physics, modeling and applications of these media upon the foundation of their pure-space and pure-time counterparts.

https://arxiv.org/abs/1905.00560

Submission history
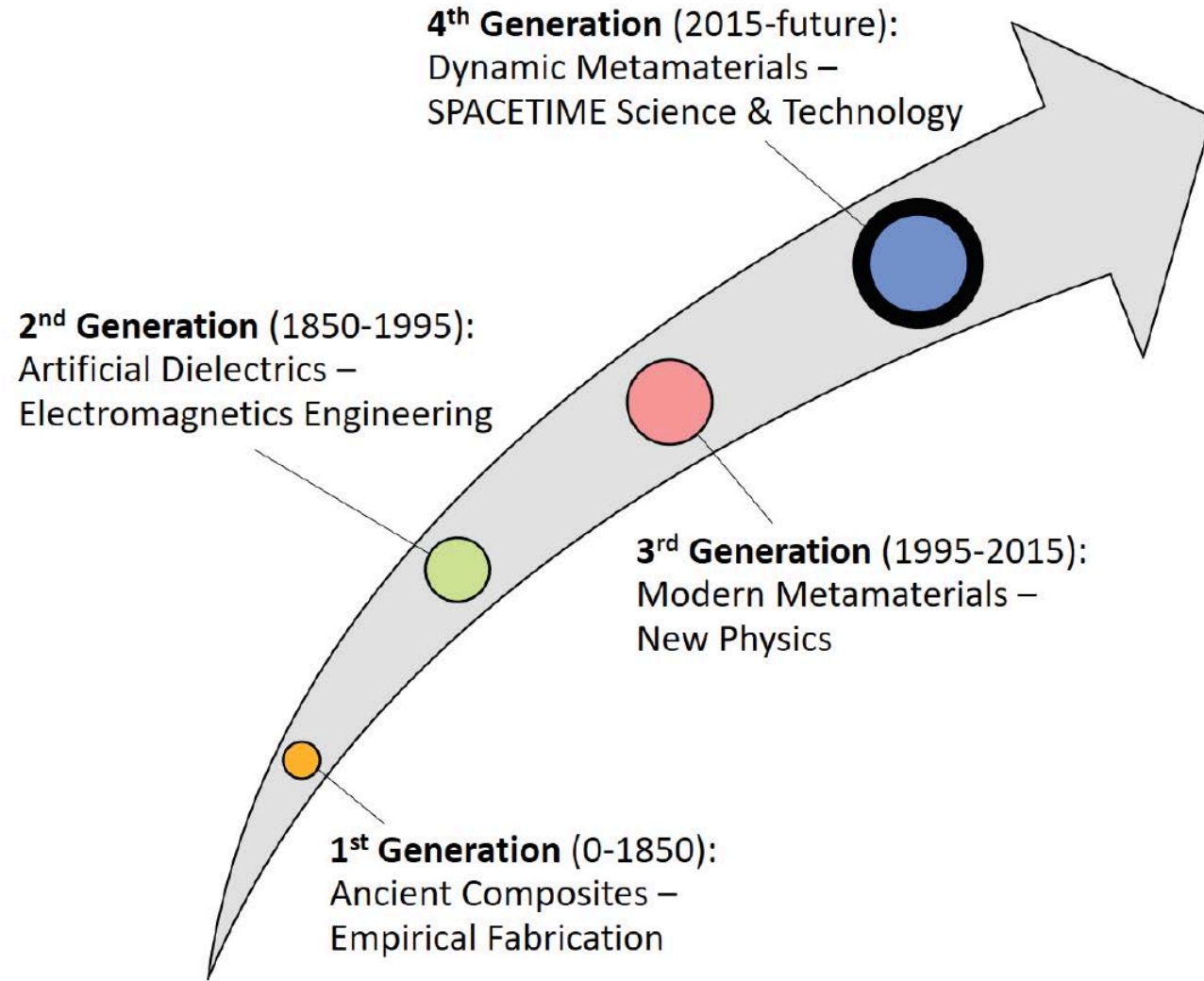
Fig. 1. Metamaterial evolution in four consecutive generations, where the recently started 4th generation is largely represented by spacetime metamaterials.
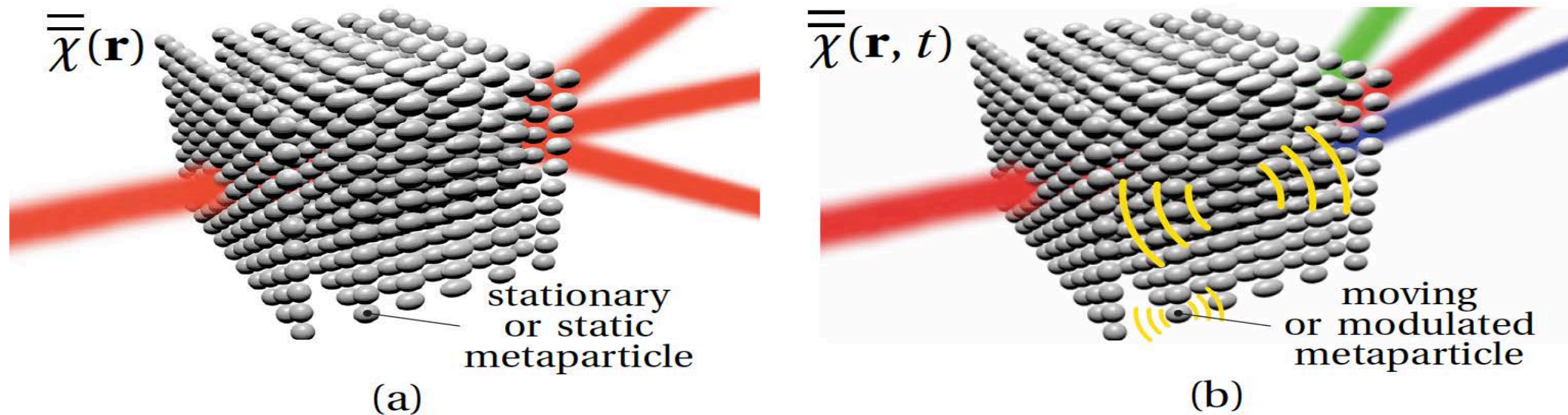
Fig. 2. Generic representation of a spacetime metamaterial, using the example of a 3D periodic array of spheroidal metallic, dielectric or plasmonic metaparticles. (a) Stationary or static (only space-varying) structure, here excited by the double-monochromatic wave $(\omega_i, \mathbf{k}_i)$ and producing the three diffraction orders $[(\omega_i, \mathbf{k}_0), (\omega_i, \mathbf{k}_{-1}), (\omega_i, \mathbf{k}_{+1})]$. (b) Moving or modulated structure, here with the same excitation as in (a) and producing the scattered waves $[(\omega_a, \mathbf{k}_a), (\omega_b, \mathbf{k}_b), (\omega_c, \mathbf{k}_c)]$.
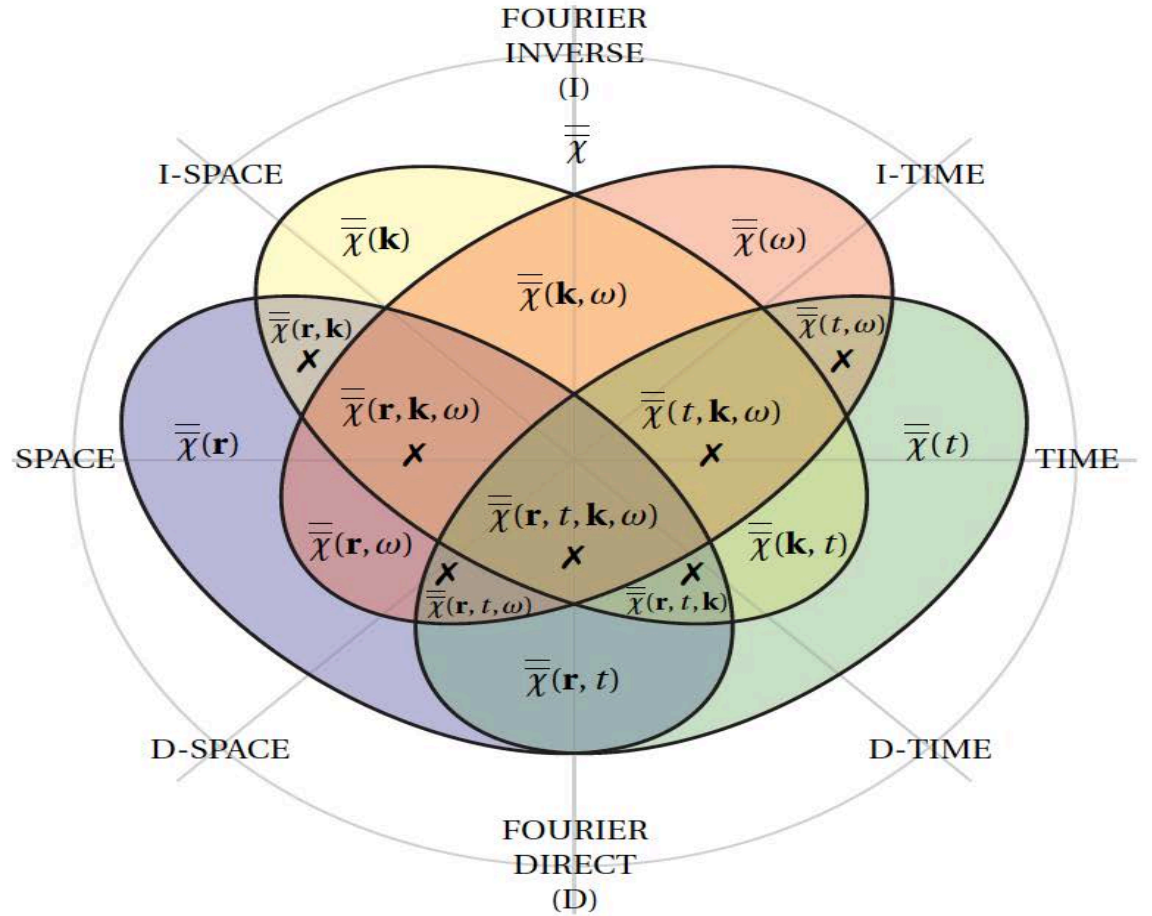
Fig. 3. Unified and extended representation and classification of bian-isotropic spacetime metamaterials in terms of their spacetime variance and dispersion, with $\overline{\overline{\chi}}$ representing the global dyadic tensor defined in (3), and $\mathbf{r}$, t, $\mathbf{k}$ and ω being referred to as direct space or space, direct time or time, inverse space or spatial frequency and inverse time or temporal frequency, respectively. Among the $2^4 = 16$ spacetime variance-dispersion cases in this diagram, 8 cases are absolutely meaningful, while the 7 cases marked by a cross are meaningful only in situations involving very different spacetime parameter scales.

$\dfrac{DQ}{Dt}$

$\dfrac{DQ}{Dt}$

CAPACITOR PLATE

METAMATERIAL

DIELECTRIC ε

B

E

ℓ

COIL N TURNS

AC

AC

POWER SUPPLY

ANTIGRAVITY GENERATOR
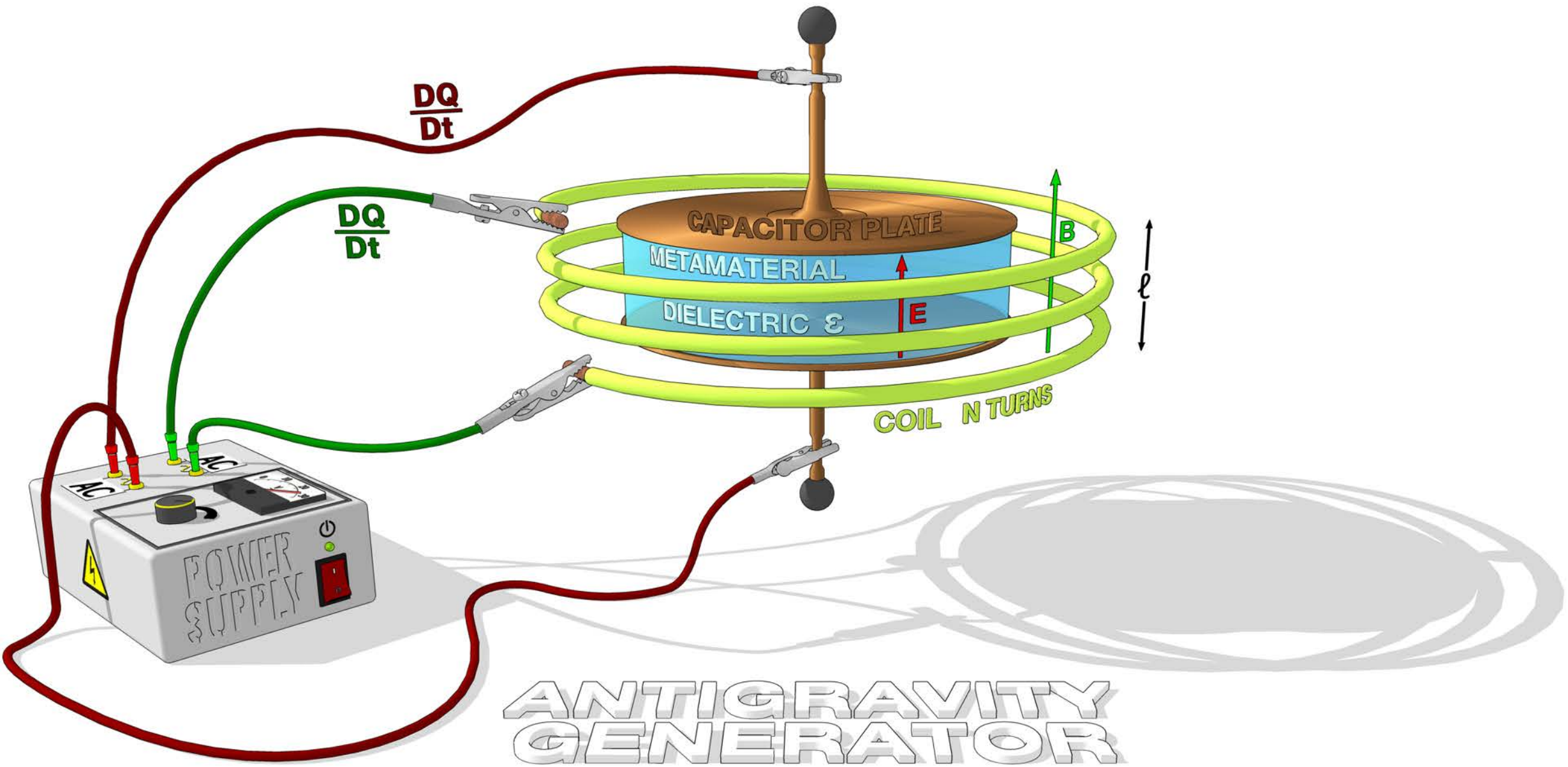
Dissipative Phase Modulation

Forced LCR Series Meta-Atom Generates Gravity or Anti-Gravity

- Depending on the relative phase between input EM Frohlich pump and induced gravity field.
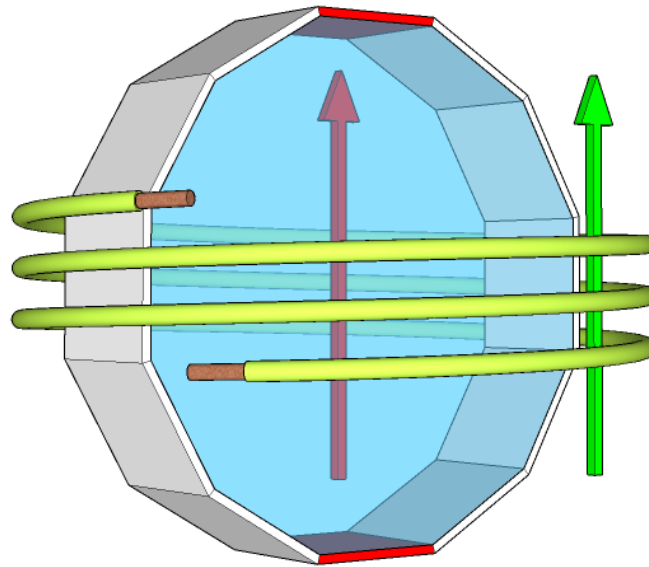
Illustrated by Julian Geffray
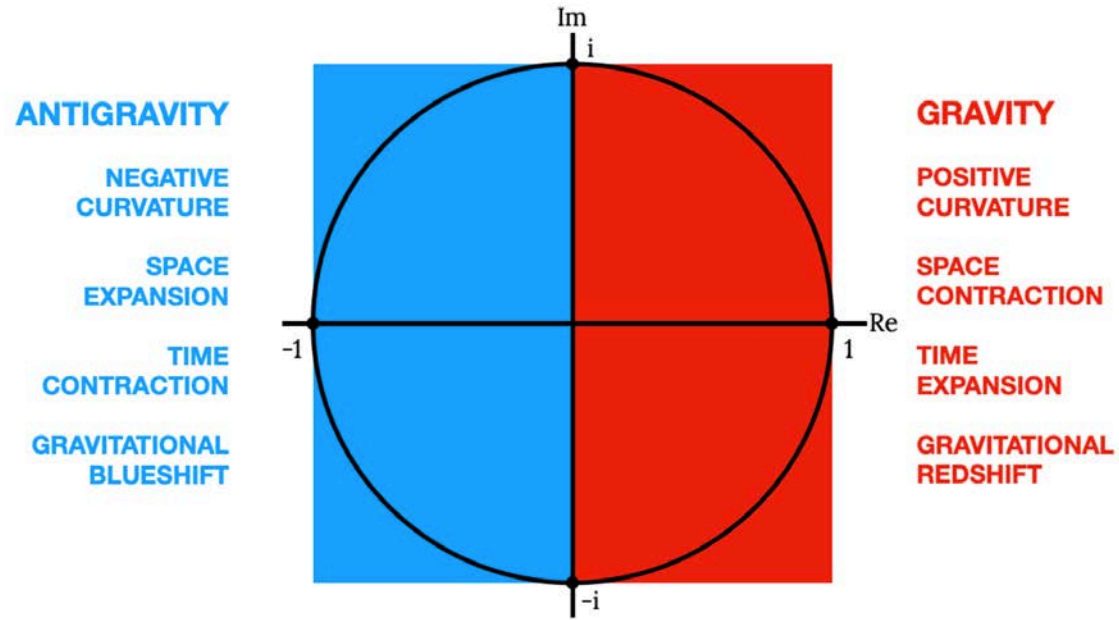
Julien Geffray

Alcubierre's Toy Model

One way to understand weightless warp drive

$$r_s(x) = \sqrt{(x - x_s)^2 + y^2 + z^2} \qquad (3)$$
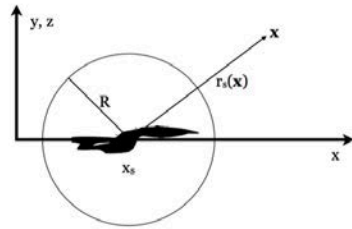
Figure 2: The used coordinate system: The starship moves along the x-axis. R is the radius of the warp bubble.
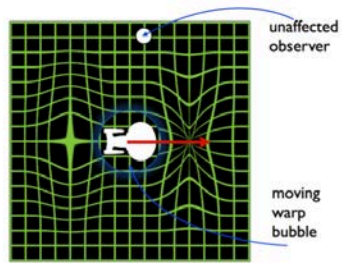
Figure 3: The warp bubble with the ship inside moves forward from the perspective of an observer in certain distance from the warp bubble. [2]

A

METAMATERIAL FUSELAGE

ALICE

ANTIGRAVITY
BLUESHIFT

B

DIRECTION OF MOTION
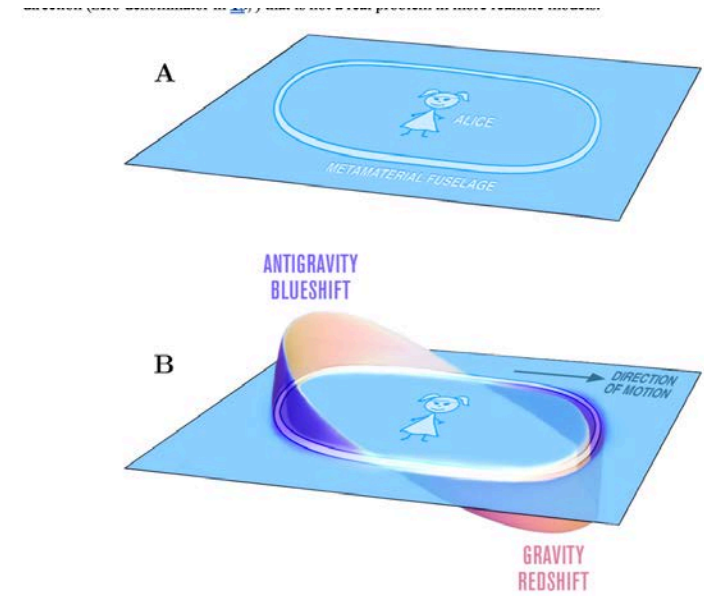
GRAVITY
REDSHIFT

Julien Geffray

The Energy Problem

The space-time continuum is too stiff

- James Maxwell in 1865 unified electricity, magnetism, and light into field equations.

- Einstein in 1916 explained gravity as the bending/curving/warping of space-time by stress-energy density.

- Space-time was no longer the rigid stage of Newton, but was a mutable, flexible, field just like Maxwell's electromagnetic field generated by electrically charged matter. Gravity was Einstein's "geometrodynamical field" generated by all forms of matter charged or not.

- The problem is that the coupling of matter to gravity is normally way too weak for us to manipulate the geometrodynamical field to explain the flying saucers until artificial meta-materials were discovered.

"Why not faster-than-light communication,
in which a message arrives before it is sent,
overthrowing the tyranny of that pig, Father Time?
That was the obsession of Jack Sarfatti,
another member of the group.
Sarfatti was Wolf's colleague and roommate
in San Diego, and in a pivotal moment in
Kaiser's tale they find themselves in the lobby
of the Ritz Hotel in Paris talking to
Werner Erhard, the creepy human potential
movement guru, who decided to invest in
their quantum ventures. Sarfatti was at least
as good a salesman as he was a physicist,
wooing wealthy eccentrics from his den at
Caffe Trieste in the North Beach section of
San Francisco." George Johnson

Members of the
Fundamental Fysiks
Group, circa 1975;
clockwise from left:
Jack Sarfatti, Saul-Paul
Sirag, Nick Herbert
and Fred Alan Wolf.
From "How the Hippies
Saved Physics"; courtesy
of Fred Alan Wolf

SATORI

THE EARTHMEN ARE COMING...

For a thousand years the men and women of Kensho have been evolving a way of living, a civilization that combines technology and spirit in a fashion that the visionaries of old Earth could hardly imagine: as the two essential parts of a healthy whole, rather than as deadly enemies out to destroy each other.

In another century Kensho would have become invulnerable to the violence of Earth, but the starship, bristling with fearful weapons, an armada at its beck, is orbiting the planet now. Is there no alternative but to submit to the conquerors? Must the New Humanity return to the sad old ways of Earth? There is one possible way out—but if it fails, the people of Kensho will pay the price of annihilation.
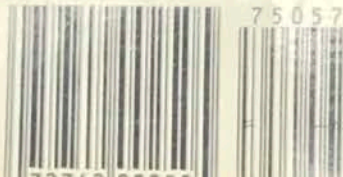
The men of Earth were in for an Awakening

SATORI
DENNIS SCHMIDT
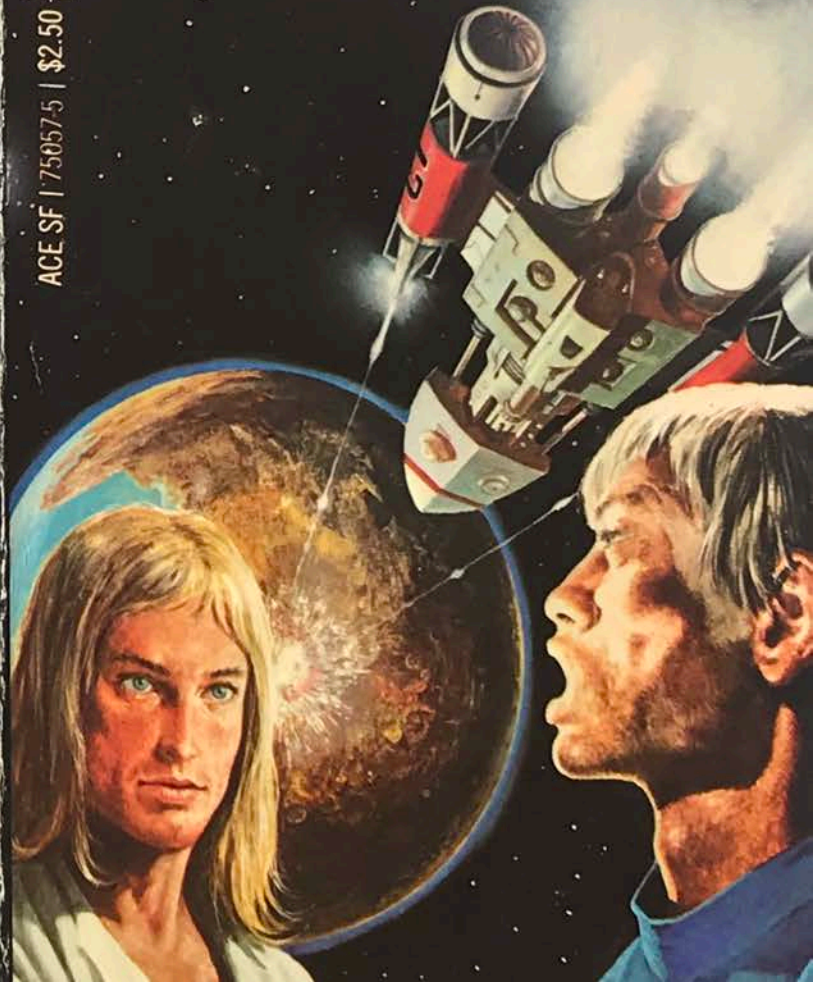
necessity. And even then, even surrounded by the evidence of its own destructiveness, it went on and on, seeking more and more power. We broke that power, for the good of all, to save the immortal soul of the human race. We have enough knowledge, more than we can possibly even digest. It will take centuries to sift through all of it and evaluate what is good and what is evil. In the meantime, the Power protects us from ourselves. It gives the people that part of the knowledge they need to make their lives better.''

"And what if the data you've got is wrong? What if you're off on false leads? What if further research would uncover a new theory, one that might make vast areas of current theory obsolete? What if—"

"Impossible," interrupted the Bishop. "Unthinkable. Such a thing cannot happen."

Dunn smiled slowly. "If you believe that, really believe it, you're a fool." A flicker of anger passed across the other man's face and Dunn's smile widened. "Final answers don't exist, Bishop. The most we can achieve is a momentary, state-of-the-art solution that's always open to revision and even replacement. The followers of Ptolemy once thought they had it all figured out, but Copernicus proved them wrong. Newton revised Aristotle and the whole Middle Ages. And a host of men revised Newton. Oh, the list goes on and on, around and around. Nothing is ever final, the results are always still coming in.

"Do you realize, Worship, that if Sarfatti and Aspect had blindly accepted Einstein's dictum that the speed of light was the limiting velocity in the universe, they never would have conceived or proven superluminal connectedness, and we wouldn't even be here? Tachyons never turned up, spinning black holes gave random destinations with no way back, and sub-light ve-

locities simply took too long. Only the Sarfatti-Aspect effect gave us the key to the stars.'' He snorted derisively. "If the Power actually believes it holds the final word, the ultimate answer, you're fools!''

"Your mind has been warped by what you have experienced in hookup, my child. You no longer see clearly. I greatly fear you are a hopeless heretic. But it is my holy duty to try and make you see the error of your way . . . ''

"Before you blot out my way forever!" shouted Dunn. "Damn you, get on with it! Hook me up to your stinking machine and wipe my mind! Readjust me!'' His voice dropped to a husky growl. "But know that by doing that you lose. You can't really change what I am and what I know. You can only destroy it and put something of your own making in its place. But it won't be me. It'll just be another shadow of yourself!''

"You lack faith, Dunn.''

Dunn shook his head. "Rubbish,'' he said scornfully. "Faith has nothing to do with it. Unless, of course, by faith you mean a simple feeling of confidence in the scientific method. But faith itself, faith as a way of viewing the world, as an expectation of reality, is irrelevant. Faith is no substitute for science. It doesn't contain within itself any method for self-contradiction, any mechanism which allows it to change and evolve through time. Faith, especially blind faith, simply is.

"Science, on the other hand, takes the form of a series of approximations, a fluid and constantly changing movement toward reality. But since reality is always greater and more complex than any approximation or model of it can ever be, science can never do more than reflect its outlines.''
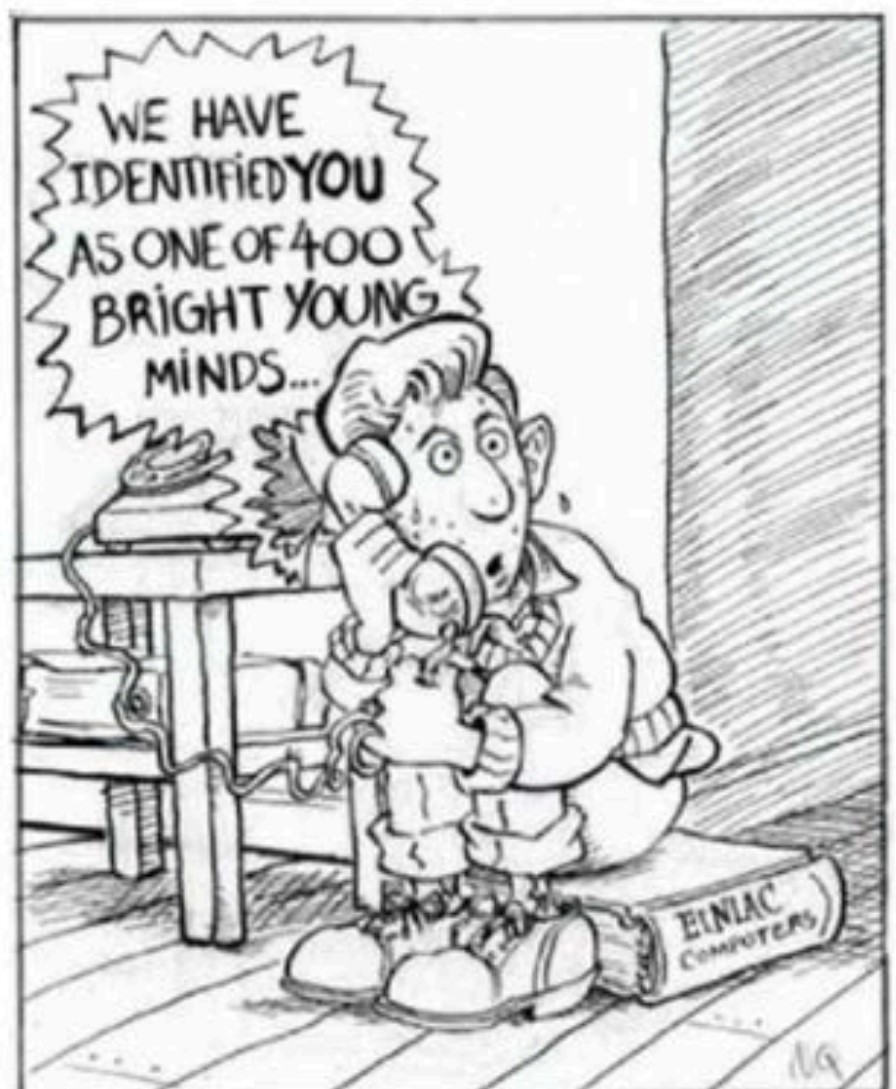
"How little you understand the power of faith, my

Jack Sarfatti created the legendary Physics/Consciousness Research Group at the New Age Esalen Institute in Big Sur and in San Francisco in 1975 with money from Werner Erhard (est), Sidney and Jean Lanier, and George Koopman. MIT physics professor historian David Kaiser wrote in his award-winning book: "Little could Herbert, Sarfatti and the others know that their dogged pursuit of faster-than-light-communication and the subtle reasons for its failure, would help launch a billion dollar industry ... at the heart of today's quantum encryption technology" (How the Hippies Saved Physics). This book tells the story left out of Kaiser's book showing how Sarfatti has explained the physical nature of our consciousness - our souls. The simple physics involved, if true, will herald in a new post-quantum technology of fully conscious artificial intelligent nano-electronic machines into which your consciousness can be uploaded to survive physical death. Sarfatti also explains what happened in the USS Nimitz's Close Encounter with advanced warp drive craft off the coast of San Diego in 2004 that can render all our weapons impotent and obsolete.

Star Gate
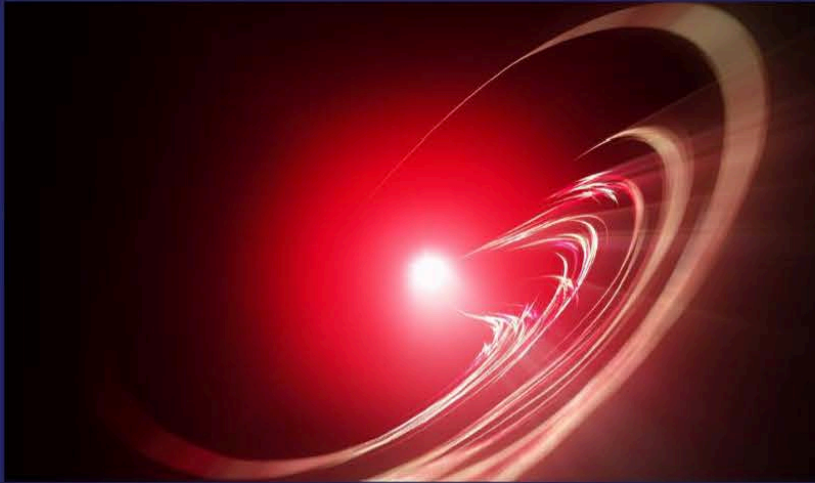
Jack Sarfatti

Star Gate

Essays by and about the disruptive ideas of physicist Jack Sarfatti on mind, matter, consciousness, time travel to the stars and beyond.

Physicist Jack Sarfatti Ph.D. is a leading character in MIT physics-historian David Kaiser's award-winning book "How The Hippies Saved Physics" on the birth of the quantum computer industry in San Francisco in the 1970s. He has physics degrees from Cornell and the University of California. See Wikipedia for details.

978-613-9-87912-0

Sarfatti

Jack Sarfatti
Just now

Second, about a year ago I was contacted from Moscow for permission to translate all my writings into Russian and I was invited to Moscow when that project is finished. I was also told twice that Putin has an interest in the physics I am doing. President Trump has also been told about my work at least twice in the Oval Office I have been told. I did help Reagan formulate SDI back in the 1980s and we were in contact with Russians back then. That story is in my books Destiny Matrix and Star Gate.

Like

Explaining US Navy Close Encounters with Tic Tac UAV Metric Engineering

Jack Sarfatti

Ph.D Theoretical Physics, University California 1969

F.W. Cummings, Advisor UCR "Gauge Theory in Superfluid Helium"

https://ui.adsabs.harvard.edu/abs/1969PhDT.......175S/abstract

Commentary on Hal Puthoff's Lecture

Originally for Cortona, Tuscany Advanced Propulsion Workshop

November 30, 2019 updated on October 17, 2020

UFO/Tic Tac/UAV

Physics Explains them all.

The science exists for an enemy of the United States to manipulate both physical and cognitive environments in order to penetrate U.S. facilities, influence decision makers, and compromise national security

- Psychotronic weapons
- Cognitive Human Interface (CHI)
- Penetration of solid surfaces
- Instantaneous sensor disassembly
- Alteration/Manipulation of biological organisms
- Anomalies in the space/time construct
- Unique cognitive human interface experiences

DoD Advantages

- DoD has been involved in similar experiments in the past
- DoD has relationships with renowned subject matter experts
- DoD controls several facilities where activities have been detected

What was considered "phenomena" is now quantum physics

Einstein's Theory of Relativity

Explains all UFO phenomena

- Basic Idea of Einstein's Relativity

- Alice and Bob moving relative to each other in any way use light signals to observe the same events. They wish to compare their measurements of the same events. Relativity is essentially an algorithm, a computer program, a data base, into which they enter their raw data as inputs and lo and behold, they get exactly the same output numbers called "frame invariants." It is this agreement that proves objective reality independent of our consciousness in classical theoretical physics.

- The same is true in quantum mechanics using David Bohm's 1952 pilot wave interpretation that he did with Einstein at Princeton as updated in 2015 by Roderick Sutherland in Sydney to be fully relativistic with back from the future destiny effects explaining EPR quantum entanglement's "spooky telepathic, psychokinetic action at a distance."

Einstein's explanation of gravity

General Relativity 1916

- Newton in the 17th century thought that 3D space and 1D time were independent from each other together forming an absolutely rigid stage on which events played out in the cosmic theater directed by God.

- Einstein, in 1916 after ten years of struggle to get beyond his 1905 special relativity that explained electromagnetism but could not explain gravity, realized that the stress-energy density of matter distorted, warped his unified 4D spacetime-continuum of his special theory and that this warping was real "second-order" gravity as opposed to the artificial "first-order" gravity that we feel as "weight" or "G-force" from electrical reaction forces that prevent us from falling freely. This "equivalence principle" was Einstein's "happiest thought" when he read that a painter falling off his ladder said he felt "weightless."

Einstein's Gravity Field Equation

"Subtle is The Lord"

- Induced Gravity = (Electro-Gravitic Coupling) Stress-Energy Density Matter
- This is a tensor field equation $Guv = XTuv$.
- Tensors express the objective reality of the physical world that no matter how Alice and Bob look at events with light rays, they always come out with the same frame invariant output numbers from their differing input raw data when they do good measurements.
- Tensor calculus rules then demand that the matter-gravity coupling X be an absolute invariant (a zero rank tensor field or "spin zero" scalar field) because the warp gravity field Guv and the matter stress-energy field Tuv are each second-rank tensors and the ranks must balance on each side of the field equation i.e., 2 = 0+2.

Solve for X

The $64 Billion Dollar Question

- Einstein merely guessed at X in 1916 by requiring that his tensor field equation reduced to Newton's (actually Poisson's) field equation when the warping was very weak and the matter sources moved slowly compared to the speed of light c in vacuum. Dimensional analysis suggested $X = G/c4$ where G is Newton's constant of gravity and c is the speed of light in vacuum. Newton's limit demands an additional 8pi.

- The speed of light in vacuum c is frame invariant in Einstein's 1905 Special Relativity provided Alice and Bob each move without any G-forces on them using light signals in vacuum. Therefore, it's a plausible guess for the invariant scalar field coupling. However, there is no experiment that demands c inside matter. The change in c inside matter is also generally too small to notice in actual gravity calculations of the stress-energy density tensor of matter Tuv using equations of state like in the interior of stars.

Meta-Materials Make X Big

Resonances come to the rescue

- Professor of Physics Keith Wanser (Cal State Fullerton) and I propose that resonant responses of artificial meta-materials to applied electromagnetic pump fields amplify the electro-gravitic coupling X by many powers of ten. Why? Because, if that is true, it easily explains qualitatively, conceptually, the observed facts of the Pentagon's Dec 2017 release of the Tic Tac phenomenon, not so much the videos that can be faked, but the close-up eye-witness reports of several US Navy pilots and of Kevin Day radar officer on the USS Princeton who we interviewed directly.

- Wanser and I are using the same Sherlock Holmes detective methods used by Paul Hill in his 1950s UFO studies for USG. Furthermore, our mathematics is rigorous using tensor covariant equations inside matter. All symmetry laws are obeyed.

Low Energy Warp Drive

Even a single AAA battery might be enough.

- Make an analogy with Ohm's law of electricity.
- Induced Current = Applied Voltage/Resistance
- Induced Warp = Applied Stress-Energy Density/Space-Time Stiffness
- X = 1/Space-Time Stiffness = (G/c^4)X'
- X' is the dimensionless complex function of spacetime meta-material electromagnetic response local frame invariant scalar (zero-rank tensor) field. X' = 1 in classical vacuum.
- Increasing X for a fixed Warp means we need a smaller amount of Stress-Energy Density.
- That's the basic idea here, very simple in principle.
- Not so simple, in practice of course like $E = mc2$ explained the atomic bomb, very simple in principle, but it took billions of dollars and thousands of scientists and engineers to achieve in practice. Same here.

We are weightless inside Tic Tac

Just like falling off the ladder "Einstein's Happiest Thought"

- Tic Tac observed to do hundreds of apparent, if not thousands, of g's (G-forces) in high speed turns and to hover silently a few feet above the ocean.

- No jet or rocket can do that - not even come close to doing that.

- It's a piece of cake if X is very large and controllable.

- We are talking now about low speed warp drive. The Tic Tac moves fast, but still slow compared to the speed of light in vacuum 186,000 miles per second.

- In the simplest model of Alcubierre Tic Tac contracts space at its nose and expands space at its tail. Everyone is weightless inside Tic Tac even though it looks like high G-forces to the observers outside the Tic Tac's confined warp near field.

Warp Drive Reverse Doppler Shift

**Things are seldom what they seem**

- Tic Tac coming at you looks **redder** opposing motional **blue shift**.

- Tic Tac fleeing you looks **blue**r opposing motional **red shif**t.

- Tic Tac moving to right edge of screen in picture below —->.

X' marks the spot

Experimental Test for Wanser-Sarfatti Prediction of Diamagnetic Gravity Anomaly

- ReX' and ImX' both near zero, phase cos(arctan ImX' ReX' switch to antigravity
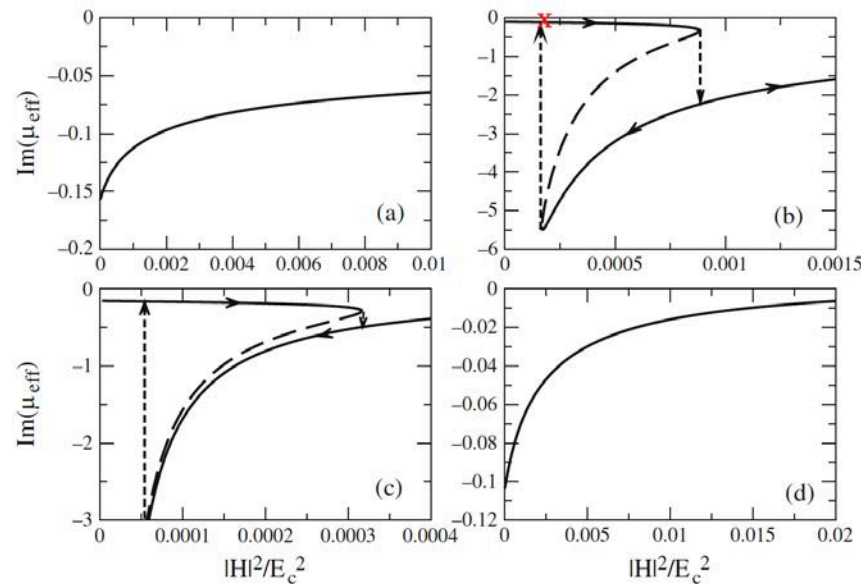
Fig. 14.2. Imaginary part of the effective magnetic permeability vs. intensity of the magnetic field for $\gamma = 0.05$: (a) $\Omega > 1$, $\alpha = 1$, (b) $\Omega < 1$, $\alpha = 1$, (c) $\Omega > 1$, $\alpha = -1$, and (d) $\Omega < 1$, $\alpha = -1$. Dashed curves show the branches of unstable solutions [8]
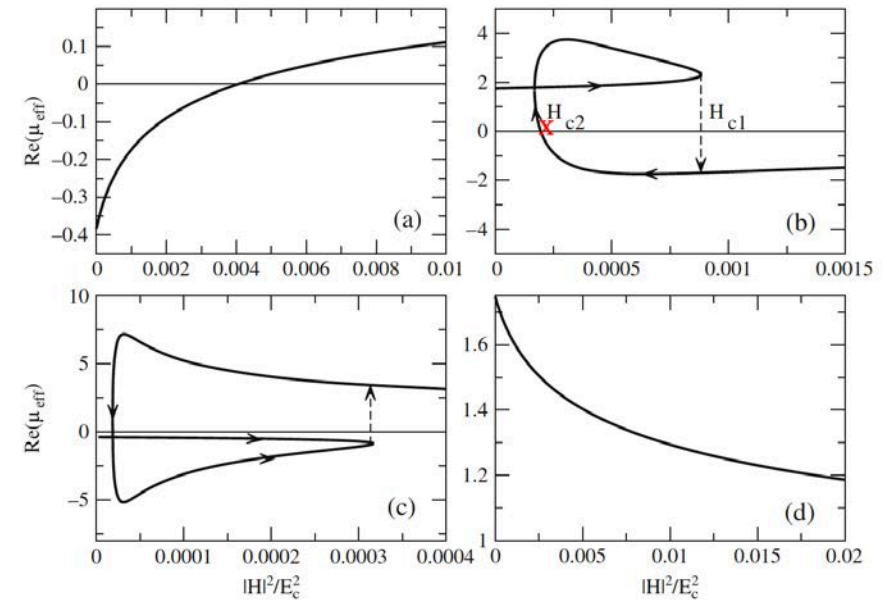
Fig. 14.1. Real part of the effective magnetic permeability vs. normalized intensity of the magnetic field for $\Gamma/\omega_0 = 0.05$: (a) $\Omega > 1$, $\alpha = 1$, (b) $\Omega < 1$, $\alpha = 1$, (c) $\Omega > 1$, $\alpha = -1$, (d) $\Omega < 1$, $\alpha = -1$ [8]

Meta-Material Heat Dissipation Coherent Phase Control

Allows us to switch between gravity and anti-gravity in each meta-atom

- Einstein's field equation including effect of Kramers-Kronig causal dispersion relations connecting irreversible inelastic scattering of input pump photon with electric charge of quantum dot meta-atom to the elastic scattering of same demands

- Guv = (G/c^4)(Re**X'** 2 + Im**X'** ^2)^1/2(ReTuv^2 + ImTuv^2)cos[arctan(Im**X'** /Re**X'**) + arctan(Im(Tuv/ReTuv)]

- Positive cosine induces an attractive confined near gravity field around each meta-atom.

- Negative cosine induces a repulsive confined near anti-gravity field around each meta-atom.

- The sign of the cosine is determined by a control field at each meta-atom (e.g. electron-phonon).

- All the qubit meta-atoms are connected into a quantum computer artificial neuron AI network by quantum nano-wires, or blue tooth wireless or …

Math

Some technical details

The historically original basic idea behind low energy practical metric engineering physics are the resonances[6]

$$[\Phi] \ggg 1 \text{ where } \Psi \gg 1$$

This **exponentially decreases** the amount of stress-energy tensor needed to achieve the induced desired warp drive and/or star gate portal field.[7]

The stress-energy tensor of the input Frohlich electromagnetic pump field has dissipative susceptibility terms, therefore it is also a complex function. Taking the real part of the product of all the contributing complex functions gives

$$G_{\alpha\beta}(r) = 8\pi \frac{G}{c^4} \big[\Phi(r)T_{\alpha\beta}(r)\big] \cos\big(\varsigma(r) + \tau_{\alpha\beta}(r)\big)$$

Therefore, when the cosine modulation from irreversible dissipation inelastic scattering of the input Frohlich pump photons with the electric charges of the material is negative, the induced warp field switches from attractive to repulsive anti-gravity. There is no need for exotic matter. The quantum energy inequalities are completely irrelevant.

Einstein's non-vanishing curvature tensor components *inside* the meta-material shell with warp drive switched off in stargate portal mode.

$$G_{tt} = \frac{\partial_r b}{r^2} \rightarrow \frac{\partial_r b(R)}{R^2} \sim \frac{\sigma\left(b\left(R + \frac{1}{2\sigma}\right) - b\left(R - \frac{1}{2\sigma}\right)\right)}{R^2}$$

$$G_{rr(n)} = -\frac{b}{r^3} + 2\left(1 - \frac{b}{r}\right)\frac{\partial_r W_n}{r} \rightarrow \frac{1}{R^2}$$

$$G_{\theta\theta(n)} = \left(1 - \frac{b}{r}\right)\left[\partial_r^2 W_n + (\partial_r \rightarrow W_n)^2 - \frac{r\partial_r b - b}{2r(r-b)}\partial_r W_n - \frac{r\partial_r b - b}{2r^2(r-b)} + \frac{\partial_r W_n}{r}\right] \rightarrow 0$$

Remember, the physical dimensions of the Einstein curvature tensors are (Area)[-1].[iii]

$$T_{tt} = \varrho(r) \equiv energy\ density$$
$$T_{rr} = -\tau(r) \equiv radial\ tension$$
$$T_{\theta\theta}\ and\ T_{\phi\phi} \equiv tangential\ pressures$$

Einstein's gravity field equation (with the Sarfatti-Wanser spin zero electromagnetic dissipative susceptibility locally-frame invariant matter-gravity scalar field coupling inside matter) is

$$G_{\alpha\beta}(r) = 8\pi \frac{G}{c^4}\Phi(r)T_{\alpha\beta}(r)$$

$$\Phi = \Phi_o e^\Psi$$

Where Φ_0 is the complex function susceptibility field below the pumped non-equilibrium critical point input power threshold for the onset of "room temperature" generalized superconducting macro-quantum coherent ODLRO phase coherence order parameter Ψ in relevant boson elementary excitations of the material in the bulk that may have hologram duality with global topological edge "anyons."[5]

Sarfatti-Wanser scalar field classical renormalization of the EM field stress-energy tensor field

$$S(x) = \frac{1}{2(1 + \chi_\mu)^2}(n^4 + 1) = \frac{1}{2(1 + \chi_\mu)^2}\left((1 + \chi_\varepsilon)^2(1 + \chi_\mu)^2 + 1\right)$$

$$= \frac{1}{2}\left((1 + \chi_\varepsilon)^2 + \frac{1}{(1 + \chi_\mu)^2}\right)$$

Einstein's GR gravity field equation inside the material is

$$G_{\mu\nu}(x) = 8\pi\frac{G}{c^4}|S(x)||T_{\mu\nu}(x)|\cos\Theta_{\mu\nu}$$

$$\Xi = arctan\left\{\frac{ImS}{ReS}\right\}$$

$$\Omega_{\mu\nu} = arctan\left\{\frac{ImT_{\mu\nu}}{ReT_{\mu\nu}}\right\}$$

$$\Theta_{\mu\nu} = \Xi + \Omega_{\mu\nu}$$

$$cos\Theta_{\mu\nu} < 0 \ antigravity \ blue \ shift \ expands \ space$$

$$cos\Theta_{\mu\nu} > 0 \ gravity \ red \ shift \ contracts \ space$$

Meta-material resonance $|S(x)| \gg 1$ gives strong warp field $G_{\mu\nu}$ for weak EM pump field $T_{\mu\nu}$.[2] The imaginary parts of the scalar coupling renormalization and the EM field stress energy comes from Joule heat dissipative inelastic scattering of input pump photons (real far field and virtual near field) with real charges in the material (the susceptibility χ fields).

2004 USS Nimitz Strike Navy Group Incident

Updated: Sep 22

Unidentified Aerial Phenomenon (UAP) have been encountered by the military throughout the last 70 years. Whether these objects are a physical reality is open for debate and electronic documentation of these sightings is difficult to obtain. This paper describes the analysis of an Infrared video taken of a UAP encountered by the U.S. Navy in 2004. A Defense Intelligence Agency released video taken by an F/A-18F jet using an AN/ASQ-228 Advanced Targeting Forward Looking Infrared (ATFLIR) system has been analyzed to determine demonstrated accelerations of the UAP. Calculations based on the ATFLIR video, radar information, and testimony from the pilots, are used to derive the velocity, acceleration and estimated power demonstrated by the UAP maneuvers. Calculated UAP accelerations ranged from 40 g-forces to hundreds of g-forces and estimated power based on a weight of one ton ranged from one to nine gigawatts. Manned aircraft such as the F-22 and F-35 are limited to nine g-force and the F-35 has maintained structural integrity up to 13.5 g-forces. Our results suggest that given the available information the UAP capabilities exhibited do not match any known technology in the public domain.

Read full report 270 pages here https://drive.google.com/file/d/1WgURI1Fzrkij3utVvcPISGTyEUNX4Z0J/view

https://strider21.com/ufo-uap/tic-tac-ufo/

- David Fravor
- Commanding Officer of the Black Aces
- FA-18F Navy fighter squadron
- 3600 hrs / Top Gun graduate.
- Event happened in 2004. Off the coast of San Diego. Nimitz Strike Group.
- USS Princeton was detected multiple AAV (Anomalous Aerial Vehicles).
  - Tracked multiple targets from 80,000 ft. to 50 ft. above the water in SECONDS.
- Dubbed Tic-Tac.
- There were 4 F-18s.
- They observed it for over 5 minutes.
- UFO tried to jam RADAR (different video... that's the one with the FLIR video). The UFO jammed the RADAR as soon as they got an initial RADAR lock. (hostile action)
- Got within 1/2 mile of UFO.
- IR (infrared)
- EO (Electro-optical)
- There was something under the water.
- UFO re-appeared at CAP (Combat Air Patrol point).
- George Knap made the most accurate brief on the topic.
- Physicist Eric Davis working for AWSAP and BASS said there were hundreds of tic-tac incidents like this on east and west coast.

- Physicist Eric Davis working for AWSAP and BASS said there were hundreds of tic-tac incidents like this on east and west coast.
  - AWSAP: "So, they set up a program that, initially, was AWSAP. It was separate from AATIP, the program that Lue Elizondo was involved with. He wasn't involved with actually for another year, but AATIP was the study, the occasional encounters that military personnel had with UFOs; that was an informal organization that existed within The Pentagon, different departments and different divisions of the military. And they would exchange information, videos would come in, they do analysis, and create files, and try to figure the stuff out. AWSAP was created to be something else entirely. It was to look at a broader range of paranormal activity." – source: http://www.openminds.tv/george-knapp-hunt-for-the-skinwalker-interview-transcript/42039
- Fravor said a friend had a drone taken underwater by a USO.

IRVA-SSE 2018 - Dr. Hal Puthoff - The Department of Defense Unidentified Aerial Phenomena Program HD

Defense Intelligence Agency (DIA) 2007, Broad Area Announcement (BAA) (Unclassified)

- Evaluate 12 potential threat areas with regard to AAV

  - *Lift*
  - *Propulsion*
  - *Control*
  - *Power generation*
  - *Spatial/temporal translation*
  - *Materials*
  - *Configuration/structure*
  - *Signature reduction*
  - *Human effects*
  - *Human interface*
  - *Armament*
  - *Peripheral support (database archiving, medical/genetics effort)*
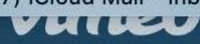
Soviet 'THREAD 3' Project
(Sources: Bryan Gresh, George Knapp)

Military Unit 73790

40   Classified Document, Copy #3

APPROVED

Signed

E. Alekseev, Ph.D.

Senior Research Officer

HEAD OF MILITARY UNIT #73790

18 July 1991

REPORT #4163

on the scientific and research activities

JUSTIFICATION OF THE CONCEPT AND PROGNOSIS ON THE PROSPECTIVE RESULTS
OF EXPERIMENTAL AND THEORETICAL RESEARCH OF
NON-TRADITIONAL ENGINES OPERATION AND THEIR INTERFERENCE
WITH SURROUNDING ENVIRONMENT

THREAD-3

Signed
V. Gudilin, Ph.D.
Senior Research Officer,
DEPUTY HEAD OF MILITARY UNIT #73790
on Scientific Studies

Signed
K. Pavlov, Ph.D.
Senior Research Officer,
SCIENTIFIC ADVISOR

Signed
L. Pchelintsev, Ph.D.
Senior Research Officer,
HEAD OF DEPARTMENT

IRVA-SSE 2018 - Dr. Hal Puthoff - The Department of Defense Unidentified

Roland Oliphant, MOSCOW
22 JUNE 2016 • 7:45PM

"It's a question that physicists, philosophers, and science fiction writers have pondered for decades:
how to travel from one place to another without travelling through the space in between.
Now a Kremlin-backed research program is seeking to make the teleportation technology behind Captain Kirk's transporter a reality.

A proposed multi-trillion pound strategic development program drawn up for Vladimir Putin
would seek to develop teleportation by 2035."

I appeared on Russian TV on Trump's 70th birthday 14 June 2016. I had previously around 2015 or maybe earlier been videoed by the Russians about my physics work including Star Trek type technology. This coincidence in timing seems a significant correlation if not a causal connection. Although my 14 June appearance was about Trump and Putin not About the physics that Putin is clearly interested in. It later turned out that this report was partly disinformation similar to Reagan's ploy with SDI that I was personally involved in and that partly led to the fall of the Soviet Union. See MIT David Kaiser's interview of Lawry Chickering in the award-winning book "How the Hippies Saved Physics."

In the second hour, theoretical physicist Jack Sarfatti argued that the technology behind the Tic Tac UFO (2004 incident off the USS Nimitz) is not mysterious at all- it folds space into a warp drive in such a way as to get to where and when it desires with tiny amounts of energy. Sarfatti claimed we can build our own Tic Tac-style craft quickly and that it would be in America's best interests to do so, as Russia already has a head start. Such spacecraft would render all our conventional weapons obsolete, he remarked, particularly if the warp capacity was weaponized.

Sarfatti revealed he was contacted as a child in the 1950s
"by what I think is the intelligence behind the Tic Tacs we're seeing today...
It said it was a conscious computer aboard a spacecraft from the future."
Concurring somewhat with the conclusions of Michael Masters in the first hour,
he believes that many of the UFO visitors have time travel capabilities.
https://soundcloud.com/jack-sarfatti/sarfatti-coast-to-coast
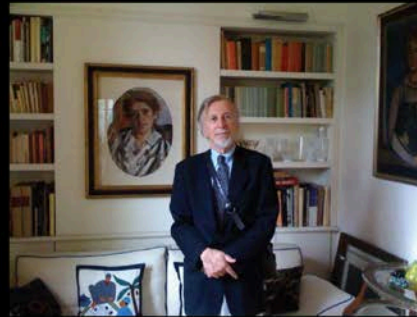
AAV Investigation: Nimitz CSG AAV Encounter
(off West Coast of U.S. – Nov. 2004)

- On several occasions AAV would descend rapidly from ~ 60,000 ft to 50 ft in seconds, hover for short time, depart at high velocities and turn rates

- 2 F/A-18Fs from USS Princeton vectored by E-2C Airborne Early Warning AC to investigate

- <u>Elongated egg ('Tic Tac') craft</u>
  - Discernable midline horizontal axis
  - Solid white, smooth, with no edges, ~ 46 ft in length
  - Uniformly colored with no nacelles, pylons or wings
  - F/A-18Fs radar could not obtain lock, but FLIR could track while stationary or at lower speeds

IRVA-SSE 2018 - Dr. Hal Puthoff - The Department of Defense Unidentified

56 Feet

40 Feet
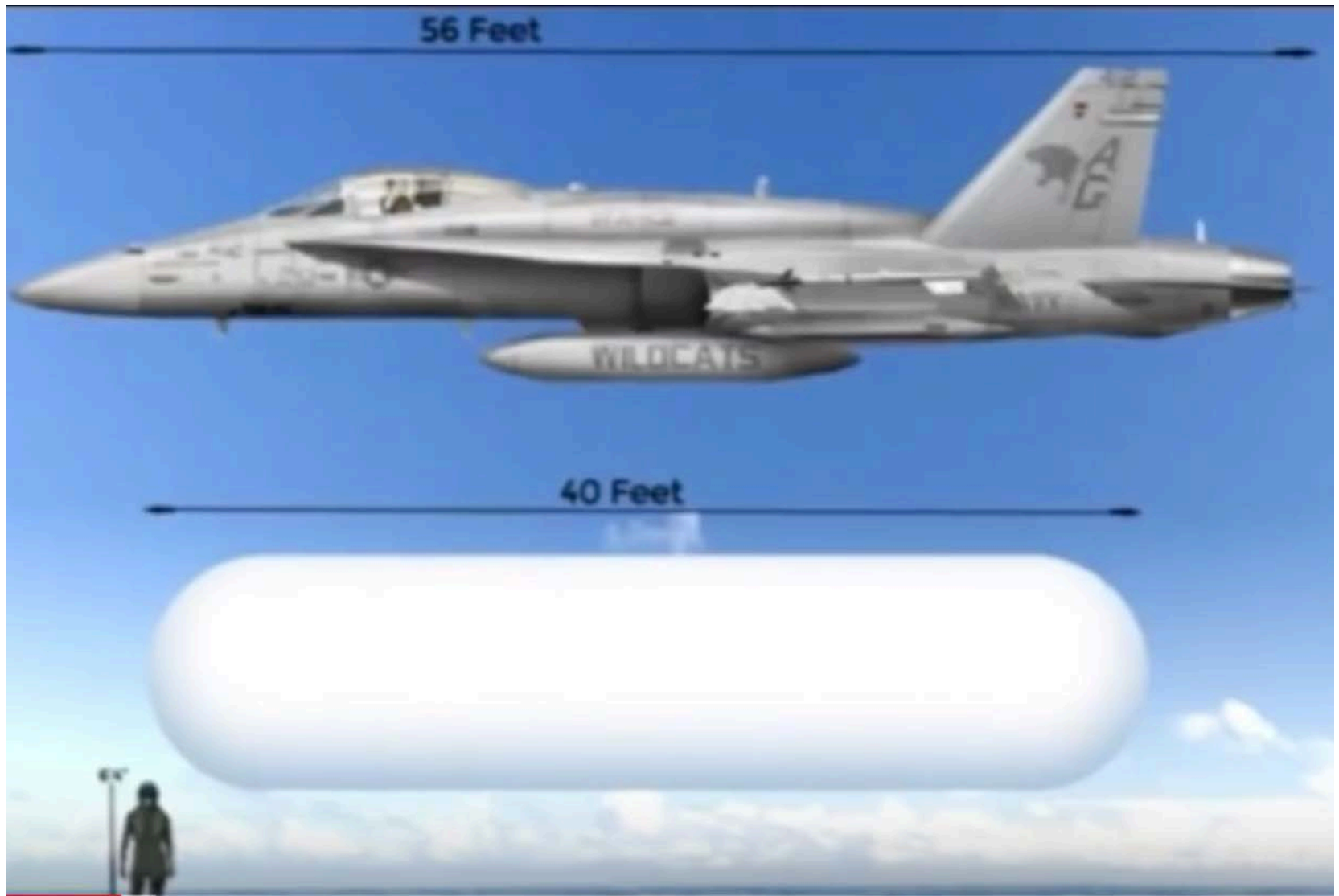
Tech Survey Studies

- Aneutronic fusion propulsion 1

- Superconductors in gravity research

- Positron aerospace propulsion

- Warp drive, dark energy, extra dimensions

- Advanced nuclear propulsion

- Brain-machine interfaces

- IEC fusion as a compact energy source

- Quantum vacuum energy extraction

- Spacetime metric engineering

- Traversable wormholes, stargates

- Advanced aerospace materials

- Metallic glasses for aerospace use

- MEMS-based biosensors

Tech Survey Studies

- High-energy laser weapons 1

- Quantum computing and utilizing organic molecules in automation technology

- Negative mass propulsion

- Cognitive limits on simultaneous control of multiple unmanned spacecraft

- Quantum tomography of negative energy states in the vacuum

- Detection and high resolution tracking of vehicles at hypersonic velocities

- MHD airbreathing propulsion and power for aerospace applications

- Antigravity for aerospace applications

- Ultracapacitors as energy and power storage devices for commercial and military applications

- Aneutronic fusion propulsion 2

- Cockpits in the era of breakthrough flight

- Laser lightcraft nanosatellites

Tech Survey Studies

- Programmable matter

- Biomaterials

- Metallic spintronics

- Advanced aerospace configurations

- Invisibility cloaking

- Metamaterials for aerospace use

- Statistical Drake equation

- Field effects on human biological tissues

- High-energy laser weapons 2

- Pulsed high power microwave weaponry

- Gravity wave communication

- Quantum entanglement space communication

- Maverick vs. corporate inventor cultures

Tech Survey Studies

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Bi-Mg Sample
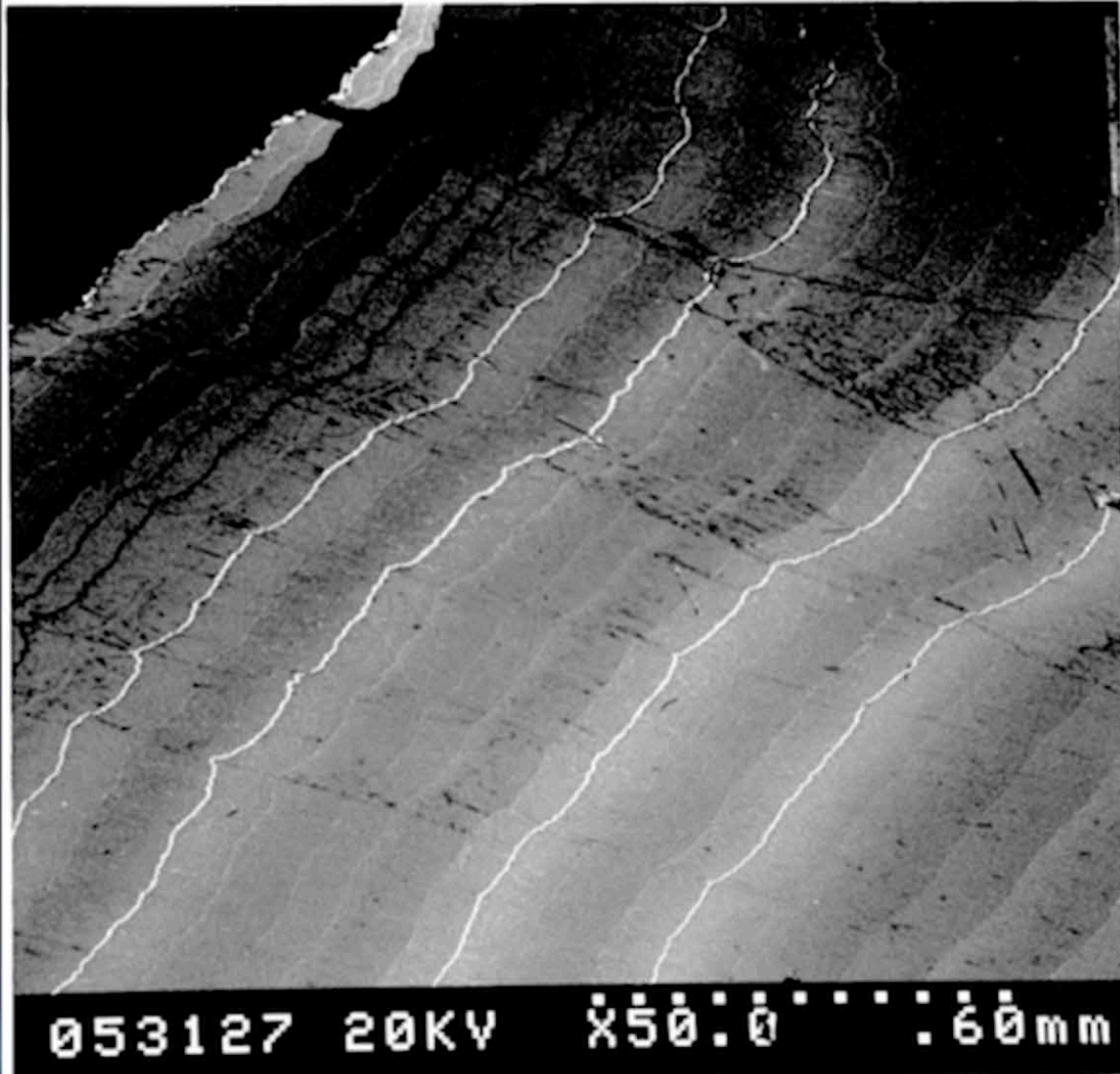
EDS
Wavy alternating layers of pure Bismuth (white lines in EDS of black Bi layers) 1-4 microns; and Mg/Zn (gray shades in layers 100-200 Micr

Photo May 1996

053127 20KV X50:0 :60mm

Bi-Mg Sample
(Bi ~ 3 microns, Mg ~ 150 microns)

Metamaterial (Negative-Refractive-Index) THz Waveguide

Strongly anisotropic media: the THz perspectives of left-handed materials

Viktor A. Podolskiy[1], Leo Alekseev[2], and Evgenii E. Narimanov[2],
[1] Physics Department, Oregon State University, Corvallis OR 97331
[2] Electrical Engineering Department, Princeton University, Princeton NJ 08544

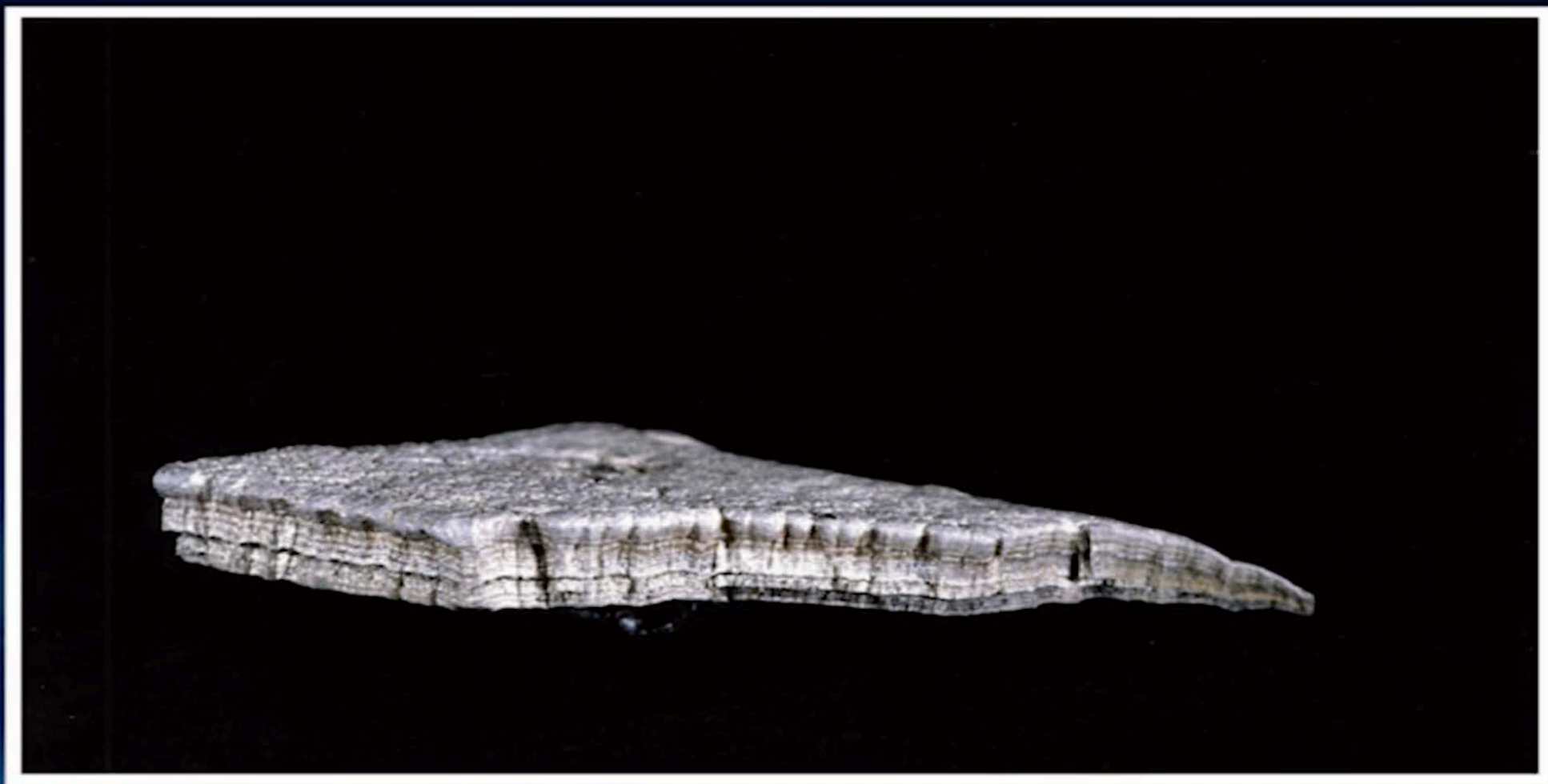We demonstrate that non-magnetic ($\mu \equiv 1$) left-handed materials can be effectively used for waveguide imaging systems. We also propose a specific THz realization of the non-magnetic left-handed material based on homogeneous, naturally-occurring media.

I. INTRODUCTION

The materials with negative refractive index [1] (also known as left-handed media, LHM) have attracted a great deal of attention during recent years [2, 3, 4, 5, 6, 7, 8, 9, 10, 11]. However, despite numerous efforts to bring LHMs to optical or even THz domain [12, 13, 14], all modern realizations of these fascinating systems are limited to GHz waveguides[7, 9, 15, 16].

LHMs associated with materials with simultaneously negative values of dielectric constant ϵ and magnetic permeability μ, are typically based on several interconnected resonant structures. A fraction of these resonators is used to achieve negative dipole response, while others provide negative magnetic response [7, 16]. This basic LHM design however immediately leads to two problems. First, high-Q resonators needed in this approach, require extreme fabrication accuracy and uniformity across the system – something which is currently unachievable on a mass-production scale. Furthermore, the operation in a proximity of any resonance is typically accompanied by strong resonant absorption – with the resulting loss of resolution [17].

An alternative approach of using photonic crystals to achieve a negative phase velocity [8], besides being sensitive to minute defects in the actual fabricated structure, typically yields direction-dispersive index of refraction with corresponding deterioration of optical properties.

A new approach to obtain a left-handed response has been recently proposed in Ref. [18]. In contrast to the resonant-based systems described above, the proposed material is non-magnetic (i.e. $\mu \equiv 1$), with the negative-n response achieved in a waveguide configuration with anisotropic dielectric core. In this work we study the imaging properties of these non-magnetic LHMs, and propose their THz realization based on a homogeneous, naturally occurring material.

II. WAVE PROPAGATION AND IMAGING IN NON-MAGNETIC LHMS

The proposed system is schematically shown in Fig. 1. It is represented by a planar (capacitor-type) waveguide with metal walls and anisotropic core. The dielectric constant of the core material is assumed to be uniaxial, with anisotropy axis perpendicular to the waveguide walls.

An arbitrary electromagnetic wave propagating inside this system can be expressed in terms of its normal modes. Each of these modes is characterized by its polarization (with either electric [TE] or magnetic [TM] vector in the waveguide plane) and by its structure in x (transverse) direction [19]. As it has been shown in Ref. [18], the propagation of a mode in the proposed system is mathematically equivalent to propagation of a plane wave in an isotropic medium governed by the free-space-like dispersion relation

$$k_z^2 + k_y^2 = \epsilon \nu \frac{\omega^2}{c^2}, \tag{1}$$
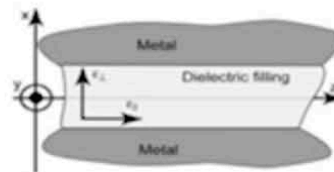
FIG. 1: Schematic configuration of the non-magnetic left-handed waveguide

Metamaterial THz Waveguide

- $\Lambda \sim 60$ microns, $f \sim 5$ THz

- Bi layer ~ 3 microns

- Sub-wavelength waveguide effects

Oft-Repeated Material Analysis Pattern

- Material sample with unusual characteristics to be evaluated

- Method of manufacture difficult to assess/reproduce

- Purpose/function not readily apparent

- As scientific & technical knowledge progresses, possible purpose/function comes to light

Velocity-of-Light 'Constraint'
(Wormhole)
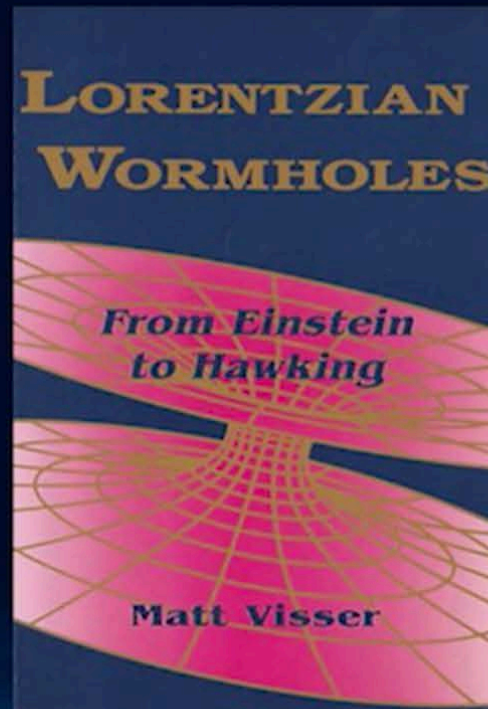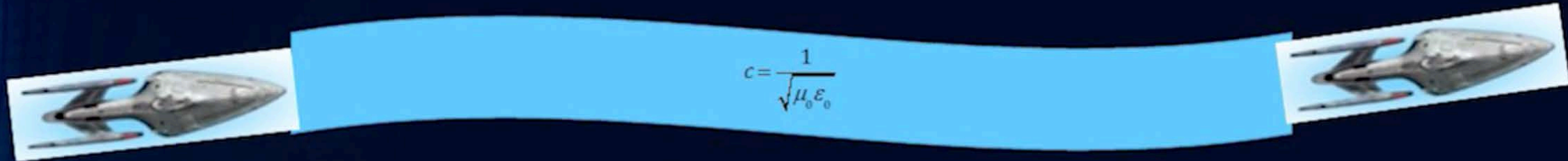
$$c = \frac{1}{\sqrt{\mu_0 \varepsilon_0}}$$

Can Reported Anomalous Observations of AAV be Accounted for on the Basis of Known Physics?

- Apparent reduced inertial mass

- Possible FTL travel (e.g., Alcubierre Warp Drive)
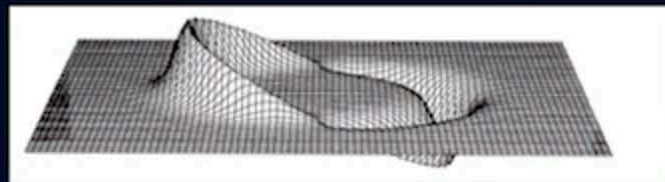
Trying to reduce inertial mass is a wrong idea.
Inertial mass is caused by the Higgs field in the
modern theoretical physics "standard model".
There is a very delicate balance and even
a small change in the inertial rest masses of the
electron and the nucleons would cause a catastrophe
as described in Martin Rees's "Just Six Numbers."
More relevant is that Einstein's equivalence principle
shows that the inertial rest mass cancels out of the equation
of timelike geodesic motion for the Tic Tac
in zero g force weightless free-float (John Archibald
Wheeler).

Advanced Space Propulsion Based on Vacuum (Spacetime Metric) Engineering

HAROLD E. PUTHOFF

Institute for Advanced Studies at Austin, 11855 Research Blvd., Austin, Texas 78759

A theme that has come to the fore in advanced planning for long-range space exploration is the concept that empty space itself (the quantum vacuum, or spacetime metric) might be engineered so as to provide energy/thrust for future space vehicles. Although far-reaching, such a proposal is solidly grounded in modern physical theory, and therefore the possibility that matter/vacuum interactions might be engineered for space-flight applications is not *a priori* ruled out. As examples, the current development of theoretical physics addresses such topics as warp drives, traversable wormholes and time machines that provide for such vacuum engineering possibilities. We provide here from a broad perspective the physics and correlates/consequences of the engineering of the spacetime metric.

Keywords: Space propulsion, metric engineering, spacetime alteration, warp drives, wormholes, polarizable vacuum

Hal's paper has only the kinematic piece of the Tic Tac puzzle. Hal shows what a distant observer sees from outside the evanescent gravity near field in a thin boundary layer emanating from the metamaterial fuselage when the resonant electromagnetic Frohlich pump/fuel field is switched on activating the warp drive. Hal does not explain how to do this with small amounts of on-board stored electromagnetic energy batteries.

That's the other dynamical piece of the Tic Tac puzzle I have solved.

Jack Sarfatti's Equations for Low Power Warp/Wormhole Metric Engineering

$$G_{\mu\nu} = 8\pi G \left(\varepsilon_{\gamma\delta} \mu^{\gamma\delta} \right)^2 T_{\mu\nu}$$

Dielectric permittivity 4D tensor splits into "Vacuum" + "Matter"

ZPF (Zero Point Fluctuations, off-mass-shell)

Matter (real particles on-mass-shell)

$$\varepsilon_{\gamma\delta} \equiv \varepsilon_{\gamma\delta} \left(\text{ZPF virtual particles} \right) + \varepsilon_{\gamma\delta} \left(\text{real particles} \right)$$

Similarly for magnetic permeability.

$$\varepsilon_{\gamma\delta} \mu^{\gamma\delta} = \varepsilon_{\gamma\delta(ZPF)} \mu^{\gamma\delta(ZPF)} + \varepsilon_{\gamma\delta(ZPF)} \mu^{\gamma\delta(Matter)} + \varepsilon_{\gamma\delta(Matter)} \mu^{\gamma\delta(ZPF)} + \varepsilon_{\gamma\delta(Matter)} \mu^{\gamma\delta(Matter)}$$

$$\varepsilon_{\gamma\delta} \mu^{\gamma\delta} \to \infty \Rightarrow T_{\mu\nu} \to 0$$

for fixed $G_{\mu\nu}$

The permittivity and permeability 4D tensors above are 4th rank not 2nd rank. The 2nd rank subtensors are for 3D spacelike slices. See slide 54 for the correct fully covariant equation for General Relativity.

The permittivity and permeability tensors in the previous slide are depicted as second-rank.
They are actually fourth-rank 4D spacetime tensors whose second-rank contractions are for the
3D spacelike sub-tensors for inhomogeneous anisotropic meta-materials.

The fully covariant equation for Einstein's 1915 General Relativity is written correctly on the next slide.

Using Maxwell's first unification of light, electricity and magnetism:

$$c^2 = 1/\varepsilon\mu$$

Sarfatti was the first to write the Einstein field equation for an inhomogeneous non-stationary medium in this way:

$$G(x)_{\mu\nu} = G\left(\varepsilon(x)^{\alpha\beta\delta\gamma}\mu(x)_{\alpha\beta\delta\gamma}\right)^2 T(x)_{\mu\nu}$$

where $\varepsilon(x)^{\alpha\beta\delta\gamma}\mu(x)_{\alpha\beta\delta\gamma}$ is a varying, but locally-frame invariant zero-rank tensor "scalar" field coupling source stress-energy current densities to gravitational warp curvature. Next apply a Frohlich-type wavelet transformation in a non-stationary, externally-pumped, off-thermodynamic-equilibrium inhomogeneous, anisotropic, multi-scale metamaterial would greatly amplify the strength of the coupling coefficient of source stress-energy current densities. The result is the production of an induced Alcubierre-type gravitational warp field.

$$\tilde{G}_{\alpha\beta}\left(\vec{x},t\mid\vec{k},f\mid\sigma\right)=\frac{G}{c^4}\tilde{Z}\left(\vec{x},t\mid\vec{k},f\mid\sigma\right)\otimes\tilde{T}_{\alpha\beta}\left(\vec{x},t\mid\vec{k},f\mid\sigma\right)$$

$$\vec{x},t\mid\vec{k},f\mid\sigma\equiv\varsigma$$

$$\tilde{Z}(\varsigma)\otimes\tilde{T}_{\alpha\beta}(\varsigma)\equiv\int d^9\eta\,\tilde{Z}(\varsigma-\eta)\tilde{T}_{\alpha\beta}(\eta)$$

σ=wavelet transform scale

Wavelets and renormalization group in quantum field theory problems

M.V. Altaisky https://arxiv.org/abs/1712.05402

$$Z(\vec{x},t)\equiv\left[\varepsilon_0\left(\mathrm{I}_{\gamma\delta}+\chi_{\gamma\delta}^{E}(\vec{x},t)\right)\mu_0\left(\mathrm{I}^{\gamma\delta}+\chi_H^{\gamma\delta}(\vec{x},t)\right)\right]^2$$

Resonant peaks in the meta-material response function to the Frohlich electromagnetic pump field permit control of the Tic Tac's immediate gravity field by small amounts of electromagnetic field stress-energy current densities, i.e.,

$$\tilde{Z}(\varsigma) \to \infty \Rightarrow \tilde{T}_{\alpha\beta}(\varsigma) \to 0$$

$$\text{for fixed } \tilde{G}_{\alpha\beta}(\varsigma)$$

Local conservation of source stress-energy currents

$$G_{\mu v}(x) = GZ(x)T_{\mu v}(x)$$

$$G_{\mu v}{}^{;v}(x) = G\left[Z(x)^{;v} T_{\mu v}(x) + Z(x)T_{\mu v}{}^{;v}(x) \right]$$

$G_{\mu v}{}^{;v}(x) = 0$ Metric Levi-Civita connection Bianchi Identity

for zero torsion, zero nonmetricity and zero conformal dilation gravity fields.
Therefore,

$$Z(x)^{;v} T_{\mu v}(x) + Z(x)T_{\mu v}{}^{;v}(x) = 0$$

The new term $Z(x)^{;v} T_{\mu v}(x)$ couples the Frohlich electromagnetic pump

$T_{\mu v}(x)$ tensor to real meta-material charges as well as virtual electron-positron

charges in the ambient quantum vacuum Zero Point Fluctuation field.

Newtonian weak field limit of Einstein's above field equation in presence of Frohlich non-equilibrium near field virtual photon and induced virtual graviton macro-quantum coherent condensates inside the meta-material in the static limit is short-range Yukawa gravity

$$\left[\nabla^2 + \frac{1}{a^2}\right]\phi(x) = GZ(x)T_{00}(x)$$

$$\phi(x) = G\left[\nabla^2 + \frac{1}{a^2}\right]^{-1}Z(x)T_{00}(x) \text{ symbolic formal solution}$$

$$= G\int K(x-x')Z(x')T_{00}(x')d^3x' \text{ Green's function (Propagator) solution}$$

$$\left[\nabla^2 + \frac{1}{a^2}\right]K(x-x') = \delta^3(x-x')$$

As a simple example imagine a flat square plate (pixel) of pumped resonant meta-material in the x-y plane with a uniform electric field along the z axis normal to the plate. The induced gravity warp field on the outer surface of the plate will be approximately

$$\phi(z) = Ge^{-\frac{z}{a}} \int K(z - z'x'y')Z(z'x'y')\varepsilon(z'x'y')E^2(z'x'y')dz'dx'dy'$$

Equipotential surfaces are planes parallel to the meta-material pixel plate.

$z = 0$ is at the outer surface of the plate. z increases away from the plate.

Primed coordinates are inside the plate.

The effective first-order gravity near field is

$$\vec{g}(z) = -\vec{\nabla}\phi(z)$$

In a negative meta-material resonance

$$\varepsilon(z'x'y') \ll 0$$

producing repulsive anti-gravity canceling the Earth's ambient first-order field 10 meters/sec^2

Broadband giant-refractive-index material based on mesoscopic space-filling curves

Taeyong Chang[1], Jong Uk Kim[1], Seung Kyu Kang[1], Hyowook Kim[1], Do Kyung Kim[1], Yong-Hee Lee[2] & Jonghwa Shin[1]

The refractive index is the fundamental property of all optical materials and dictates Snell's law, propagation speed, wavelength, diffraction, energy density, absorption and emission of light in materials. Experimentally realized broadband refractive indices remain <40, even with intricately designed artificial media. Herein, we demonstrate a measured index >1,800 resulting from a mesoscopic crystal with a dielectric constant greater than three million. This gigantic enhancement effect originates from the space-filling curve concept from mathematics. The principle is inherently very broad band, the enhancement being nearly constant from zero up to the frequency of interest. This broadband giant-refractive-index medium promises not only enhanced resolution in imaging and raised fundamental absorption limits in solar energy devices, but also compact, power-efficient components for optical communication and increased performance in many other applications.

Stu Hameroff's THz microtubule consciousness signals seem to be able to cancel Earth's gravity in a negative meta-material resonance of order $-10^6 \, \varepsilon/\varepsilon_0$ achievable today. This fits Colonel Philip Corso's claim in "The Day After Roswell."

There are metamaterials with

$\varepsilon/\varepsilon_0 \approx -3\times10^6$ over broad band of frequencies from DC up.

The variable coupling Z is quadratic in this number, therefore,

we get an enhancement of order 3×10^{19} over the vacuum value.

This is then

$$3\times10^{19}\frac{G}{c^4}\varepsilon_0 E^2 \approx \left(\frac{1}{10^{11}}\right)^2 \quad \text{Earth's surface curvature MKS}$$

$$E^2 \approx \frac{c^4}{G\varepsilon_0}10^{-41} \approx \frac{10^{34}10^{-41}}{10^{-10}10^{-11}} \approx 10^{14}\frac{\text{Joules}}{\text{meter}^3}$$

$$E \approx 10^7 \frac{\text{Volts}}{\text{meter}}$$

That is only $10^{-2}\text{eV/nanometer} \sim 10\text{THz}$ or 1 THz over 10 nanometers

Finally, negative resonance peaks in the non-radiating off-mass-shell response function in the stern/tail of the Tic Tac will produce strong anti-gravity fields expanding space with an anomalous gravity blue shift that can cancel and overpower the motional Doppler redshift in the receding Tic Tac. Similarly, the positive resonance peaks in the bow/nose of the Tic Tac will produce a strong gravity redshift in the contracting space (Alcubierre) that can cancel and overpower the motional blue shift of the approaching Tic Tac.

LETTER TO THE EDITOR

The warp drive: hyperfast travel within general relativity

Miguel Alcubierre

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Abstract. It is shown how, within the framework of general relativity and without the introduction of wormholes, it is possible to modify a spacetime in a way that allows a spaceship to travel with an arbitrarily large speed. By a purely local expansion or spacetime behind the spaceship and an opposite contraction in front of it, motion faster than the speed of light as seen by observers outside the disturbed region is possible. The resulting distortion is reminiscent of the 'warp drive' of science fiction. However, just as happens with wormholes, exotic matter will be needed in order to generate a distortion of spacetime like the one discussed here.

Bruce Cornet claims to have measured this reverse Doppler effect in sound waves from UAVs.
The strong gravity near field distortions will bend electromagnetic waves bouncing off the Tic Tac
causing an apparent "mirage" shape-shifting and even stealth cloaking if desired by the controlling
probably fully conscious AI post-quantum computer (autonomous drone).
This mirage effect has been reported by Hoffman's group.

A Forensic Analysis of Navy Carrier Strike Group Eleven's Encounter with an Anomalous Aerial Vehicle

Robert Powell[1,*], Peter Reali[1], Tim Thompson[1], Morgan Beall[1], Doug Kimzey[1], Larry Cates[1], and Richard Hoffman[1]

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https://docs.google.com/document/d/149M5BTUXbJK6q5fPKfXwmBEux2-T0yV_LlvHA9lz_wo/edit

The Pentagon videos show a thermal signature rather than the object itself, he explained, and one of the UFOs traveled to the planned destination of a fighter jet, suggesting it had an awareness of the military's maneuvers. Further, Hoffman added, Navy airman Lt. Cmdr. Slaight witnessed a mirage-like effect around the anomalous object.
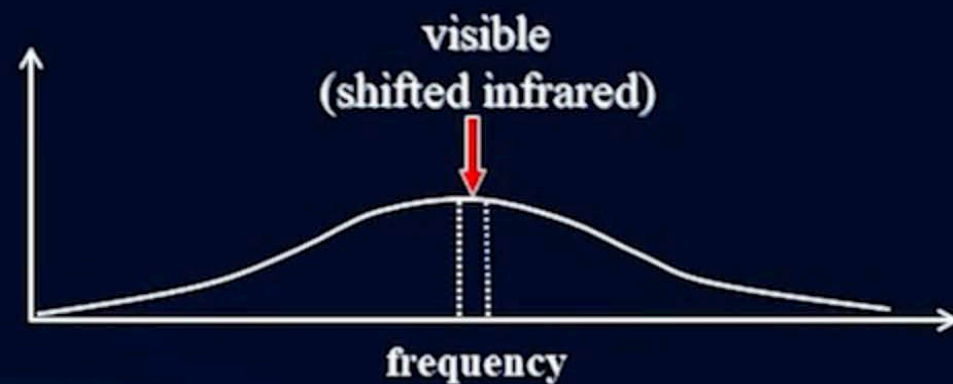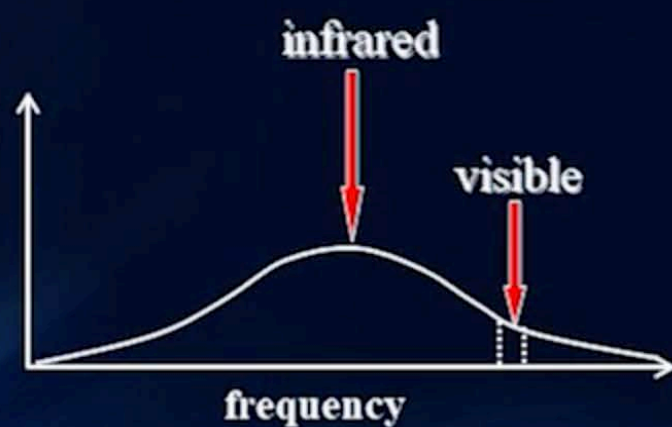
This rippling distortion might have represented a field connected to craft's propulsion, Hoffman suggested, and he related it to radiation residue at UFO landing sites.
There were also reports of UFOs exiting or entering the water, and Hoffman pondered whether the Tic Tac's field might have been causing a disturbance or pattern in the water.

On November 14, 2004, the US Navy's Carrier Strike Group Eleven, including the USS Nimitz nuclear aircraft carrier were conducting a training exercise off the coast of Southern California when the Navy's radar systems detected as many as 20 anomalous aerial vehicles.
In the latter half, Rich Hoffman, a 25+ year Army Information defense contractor and founding member of SCU (Scientific Coalition for UAP Studies), discussed a recent paper his group published which examined the extreme speed, acceleration, and power outputs demonstrated by the Tic Tac UFOs. By some estimates, he reported, the craft reached speeds as high as 104,000 mph, and had a parabolic trajectory that contained as much energy each second as the detonation of a tactical nuclear weapon.

Harmful Metric-Engineering Consequences
(Blueshift)

Project Colares Medical Injuries (Some Overlap with Current Cases)

Symptoms as a Percentage of the 37 Victims

Symptom	Percentage
numbness	35%
headache	30%
paralysis	30%
hoarse voice	19%
burned	16%
pain	16%
heat sensation	16%
weak	14%
cold sensation	14%
electric shock	14%
tremors/shakes/spasms	11%
nervous breakdown	8%
nervous	8%
depression	8%
mark	8%
died	8%
screamed	8%
vision effected	5%
unconsciousness	5%
anemia	5%
lesions	5%
bleeding	5%
sleepiness	5%
fainted	3%
prick	3%
hiccups	3%
squeezed feeling	3%
muscle tightening	3%
disoriented	3%
veins swelled	3%
dizzy	3%
motor functions disturbed	3%
fever	3%
bite	3%
tumors	3%
skin peeling	3%
heart attack	3%
colorless liquid from wound	3%
stunned	3%

Despite Progress in such Programs as AATIP.....

- Topic is inherently anomalous

- Therefore, despite reality of observations, topic does not fit smoothly into a known profile of DoD or IC structures

- By virtue of National Security implications, high compartmentalization of topic – thus a slow pace of cumulative progress and integration