

The Physics of UFOs

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Common characteristics of UFO dynamics: They can -

- Fly slowly and hover
- Accelerate to high speeds instantly
- Make right-angled or sharp, acute angle turns at high speed
- During all these manoeuvres they may remain utterly silent or at most emit a humming sound, usually slight when compared with the roar of a jet or helicopter.

All these characteristics imply *field control* (no noisy jet engine, extreme manoeuvrability etc.).

Other behaviour implies novel physics:

- *EM effects:* Vehicles or other machines, watches etc. may stop upon the approach of a UFO, and suddenly re-start once the UFO departs. Possibly consistent with artificial gravito-magnetic field, which could interfere with devices just as an EM pulse would.
- *Solid Light:* Ufos often send powerful searchlights to scan the ground beneath them, especially at night or half-light. Sometimes such beams of light may be withdrawn up into the craft as if a solid, glowing tube were being hauled up.
- *Angel hair:* Occasionally flimsy, gossamer strands of material may fall from UFOs, catching in trees or on buildings, usually dissolving upon being touched.
- *Sudden disappearance and re-appearance:* Either due to great acceleration to such high speeds that the human eye cannot follow or some other process, UFOs can 'wink out' or suddenly (re-)appear.

What physical principles might underlie this behaviour?

The main UFO hypotheses are:

1. *ET or Extra-Terrestrial:* the UFOs are alien spacecraft or 'shuttles' sent from a mothership or other concealed base on Earth or on the moon etc.
2. *Other dimensions:* They might originate in dimensions parallel to our own and appear and disappear by 'phasing' in or out of our universe.
3. *Angels / Fairies / Gods & Goddesses:* Reports down the ages of flying ships or witches and 'trickster' type behaviour of their occupants implies they may be mischievous 'spirit entities'.
4. *Time travellers:* perhaps tourists from the future. This would explain the appearance of strange craft at the time of satellite re-entries etc.

Under (3.) above there need not be any connection to physics. Other paradigms are in this case appropriate, for example magic, divine or psychic powers.

Under (1.), (2) or (4.), however, advanced physics seems to be in operation surpassing mostly the current state of the art of terrestrial physics. In modelling what processes might be involved, attention has focussed on the dynamics of UFOs.

The dynamics of UFOs & Propulsion

Paul Hill of NASA actually *invented VTOL to model UFO* behaviour. He found that several characteristics of UFO dynamics indicated artificial force fields:

- Sudden acceleration from a stand-still
- Right angle manoeuvres
- 'Tilt to go' attitude change before initiating movement in direction of the tilt

Only when guarded from sudden accelerations by an artificial gravity or force field could a living crew member survive the impossibly high g-forces.

Triangle UFOs – silent, slow, then high velocity, silently traversing great distances. E.g.:

- Illinois (2000) sighting by independent police officers,
- Channel island (2008) sighting of 1 km long UFO by 2 air-crews.

Are the reported UFO manoeuvres physically possible?

New evidence for anti-gravity– Tajmar & Heim theory

Anti-gravity –many claims over the years: e.g. *Podkletnov* in Finland: smoke rising over a rotating superconductor: never reproduced – attempts by NASA etc. failed.

ESA study by Martin *Tajmar* of Austria et al. – *reproduced in New Zealand* and maybe by NASA's *Gravity Probe B*.

Time-line:

January 2006

Cover of New Scientist has Heim & his magneto-gravitic propulsion.

March 2006

ESA homepage reports on Tajmar study: Tangential acceleration measured by accelerometers round a rotating superconductor shows *Artificial gravity!* different setup to Podkletnov.

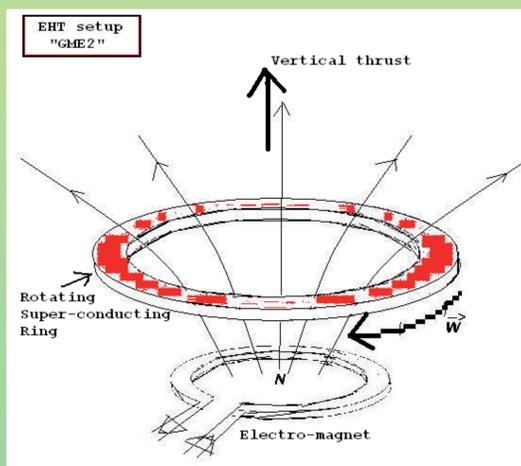
July 2007

Reproduced by Graham et al. in New Zealand. Also, possible reproduction by Gravity Probe B results.

Size of Tajmar effect: about 0.0001 x (Earth's gravity) = 0.001 m/s/s: at least 1018 greater than prediction of General Relativity!

Mid 2009

Tajmar is working with Walter Dröscher and Jochem Häuser, the main workers on Extended Heim Theory (EHT), which predicts extension of Tajmar tangential force experiment (GME1) to a vertical force experiment (GME2).



Ultimately, building of larger, non-superconducting, 'fermionic' version of GME2 will demonstrate ability to lift a spacecraft.

New Energy Source for anti-gravity– UFO propulsion

Now that artificial gravity is (almost) available, what energy source could keep the UFO aloft for hours?

New Magnetic Motor power source – e.g. Irish company STE-ORN: Their 'Orbo' is claimed to produce 0.5 Watts / cc ! This could power a *Heim-Droscher-Tajmar drive* for a flying saucer.

EHT (Extended Heim Theory) and Gravito-magnetic propulsion

The latest version of EHT involves several updates to the 'Theory of Everything' which is now a major rival to String Theory or Loop Quantum Gravity. The features of interest are:

- Besides the known 4 forces, 2 more gravity-like forces, one explaining Dark Energy and the other giving anti-gravity motors.
- Besides ordinary matter (OM), a class of virtual particles with imaginary rest mass (non-ordinary matter (NOM)).
- A neutral electron (NE) that only forms at ultra high temperatures – i.e. the Big Bang. Fossil NEs could be Dark Matter.
- Interaction of OM and NOM can lead to violation of Newton's 3rd law of action-reaction and so to free energy. A device based in this has also been patented by Walter Dröscher
- EHT considers 4 subspaces (R3 (space – x1,x2,x3), T1 (time – x4), S2 (x5, x6) and I2 (x7, x8). These can be grouped in different ways to map onto the Standard model of Physics and beyond. Different groupings of the subspaces and their associated 'poly-metrics' are termed 'Hermety Forms'. They are, for OM and NOM (Preprint, Hauser, 2009) – see Table

References

Hynek, J. A. (1972): The UFO experience - A Scientific Inquiry. Henry Regnery, Chicago, ISBN 0-345-27361-3

Towards a new test of general relativity? http://www.esa.int/esaMI/GSP/SEM016OVG-JE_0.html

Advanced Propulsion Systems from Artificial Gravitational Fields <http://www.hpcc-space.com/publications/documents/AIAA5595JCP2007DarkAbbreviated.pdf>

Hermety Forms of Ordinary Matter (OM)			
Hermety form Lagrange density	Messenger particle	Symmetry group	Physical interaction
$H_1(S^4), L_g$	ν_g graviton	SO(3,1)	gravitation –
$H_2(T^3 \times S^2 \times I^2), L_{em}$	γ photon	U(1)	electromagnetic $\gamma \rightarrow \nu_{em}^0$ only the photon interacts with NOM
$H_3(R^3 \times S^2 \times I^2), L_{weak}$	Z^0 boson	SU(2)	weak
$H_4(R^3 \times T^3 \times S^2 \times I^2)$	W^\pm bosons	SU(2)	weak
$H_5(R^3 \times I^2), L_c$	g gluons	SU(3)	strong
$H_6(R^3 \times T^3 \times S^2)$	e, μ, τ		charged leptons
$H_7(R^3 \times S^2)$	ν_e, ν_μ, ν_τ neutrinos		neutral leptons
$H_8(R^3 \times T^3 \times I^2)$	q		quarks
Hermety Form of Non-Ordinary Matter (NOM)			
Hermety form Lagrange density	Messenger particle	Symmetry group	Physical interaction
$H_1(S^4), L_g$	ν_g graviton		gravitation +
$H_9(S^4 \times I^2), L_{gp}$	$\nu_{gp}^0 \rightarrow \left\{ \begin{array}{l} \nu_{gp}^1 + \nu_{gp}^2 \\ \nu_{gp}^3 + \nu_{gp}^4 \end{array} \right.$ gravitophobons	SO(4)	gravitation ±
$H_{10}(I^2), L_\gamma$	ν_γ quaternary particle		gravitation – dark energy
$H_{11}(T^4 \times S^2 \times I^2)^*$	ν_l	D(1)	interaction boson for charged Im-lepton
$H_{12}(I^2)^*$	ν_l	D(1)	interaction boson for Im-quark
$H_{13}(T^4 \times S^4)$	e_l		charged Im-lepton
$H_{14}(I^3 \times S^2)^*$	ν^0 dark matter		Re-lepton
$H_{15}(T^4 \times I^2)$	q_l		Im-quark