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Claims against the Geometric Chronon Field Theory and their
rebuttal

See:
https://www.researchgate.net/publication/335107380_Electro-gravi
ty_via_Geometric_Chronon_Field_and_on_the_Origin_of_Mass
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Claims against the GCFT by Shane Killeen - (1) to (4)

1️⃣ Mass–Charge Coupling Test

If charge generates gravity directly, acceleration should scale with **charge alone**, not with stored EM energy.

Classical EM predicts gravitational effect $\propto$ energy density, not sign of charge.

If reversing polarity flips gravity direction independently of energy, that's new physics.

2️⃣ Vacuum vs Air Invariance

Ionic wind, corona discharge, thermal drift disappear in hard vacuum.

If thrust magnitude is identical in:

- air
- high vacuum
- Faraday shielding
  then EM artifacts are unlikely.

3️⃣ Orientation Independence

Electrostatic forces depend on field geometry.

Gravity does not care about plate orientation relative to Earth's field.

If the effect persists when rotated arbitrarily, that's interesting.

4️⃣ $1/r^2$ Deviation (Only at the Planck length scale)

If gravity transitions to $1/r$ near charges, precision torsion-balance experiments should detect it. None have.

Bottom line:

A unique signature would be **polarity-dependent weight change in vacuum that cannot be explained by Maxwell stress, radiation pressure, thermal expansion, or ion flow**.

That's the bar.

Rebuttal of claims (1) to (4)

1) Coupling is a wrong term that belongs to gauge theory. "If charge generates gravity directly, acceleration should scale with **charge alone**, not with stored EM energy." - this is practically incorrect because the detectors themselves polarize and generate an opposite Hermann Bondi gravitational dipole.

2) "Ionic wind, corona discharge, thermal drift disappear in hard vacuum" - this is 100% correct. The reason is that the gravitational pseudo acceleration is parallel to and proportional to the electrostatic field in the non-covariant classical limit. In high voltage capacitors the dielectric atoms do not averagely move because the sum of the electrostatic field is zero on each nucleus, otherwise, the capacitor would be liquidated. A zero sum electric field means zero sum gravity. This is why a static capacitor will never generate thrust. The way to overcome it is to use a single side voltage wave AC + DC baseline along with ferroelectric materials. Ferroelectric materials retain dipoles after the external field collapses. So the solution is dynamic. With PZT, some dipoles last 50 seconds but most lose alignment within 0.07 second.

3) "Electrostatic forces depend on field geometry.

Gravity does not care about plate orientation relative to Earth's field.

If the effect persists when rotated arbitrarily, that's interesting." - this is incorrect if the experiment is correctly done, as was performed by Dr. Shomir Banerjee and by Mark Sokol. Mark Sokol failed with a static voltage as expected.

For non-ferroelectric experiment refer to:

Starting a report https://www.youtube.com/watch?v=nlA7PTOJfm4 from 16:11. The actual report: https://www.youtube.com/watch?v=_w3eTfFX7Ss from 49:28

4) "If gravity transitions to 1/r near charges, precision torsion-balance experiments should detect it. None have." - 100% correct. The dependence on 1/r is at the Planck level. It is a result of the linearization of equation (4). If 1/r behavior is **only at exactly the Planck length**, not as a macroscopic scaling law, then we are no longer talking about modifying Gauss' law in the continuum. We are talking about a **short-distance discretization artifact or boundary effect**.

"Bottom line:

A unique signature would be **polarity-dependent weight change in vacuum that cannot be explained by Maxwell stress, radiation pressure, thermal expansion, or ion flow**.

That's the bar." - That is correct. This is exactly what was seen by Dr. Shomir Banerjee and by Mark Sokol when the voltage wave was AC + DC baseline. The correct materials is ferroelectric.

There could be another way that requires very intense gradient, however, to explore this option requires a full theory of (64.b), i.e. chromodynamics. The standard model prohibits EDM and also a chromodynamic dipole of any kind. 3 colors always appear. To demand one or two colors will cause an inward acceleration while the third will be the opposite is a nice idea that could generate a statistical, not a permanent gravitational dipole when the nucleus is exposed to very intense electric gradient. I'm not sure it can work.

Beware that all Bondi gravitational dipoles steal energy from spacetime at the expense of the gravitational energy of far bodies of mass. Not a great idea if it can cause the moon to approach the Earth or the Earth to approach the sun. It won't happen if the tugging on the background metric is well distributed.

More Claims against the GCFT by Shane Killeen - (5) to (7)

5) Planck-scale deviation that cannot be measured = unfalsifiable shield. In fact, I explicitly ban planck scales from my thinking because they cannot permit geometry. They are inert and practically unseeable.

6) Detector polarization explaining away scaling objections = convenient symmetry escape.

Rebuttal of claims (5) to (7)

5) "Planck-scale deviation that cannot be measured" - it is indeed a problem but it has consequences, (24), (40)-(42) for example.

6) "Detector polarization explaining away scaling objections = convenient symmetry escape". Any induced dipole in an electric field will cancel out the electric field due to the Faraday cage effect. It is not a convenient symmetry. You may be able to bypass this problem with extreme gradients. These may also affect nuclear polarization at least statistically because nucleus EDM is forbidden in the standard model. A statistical EDM may also result in a chromodynamic-based Bondi gravitational dipole. The latter is speculative because no exact solutions to (64.b) or (64.a) are available and such solutions are required because of the complex and not obvious mixing of three fields.

7) "Energy stolen from spacetime" is rhetorical unless formally derived. It has a mathematical basis due to Dennis W. Sciama and due to the Mach principle. In fact a Bondi dipole must affect the local metric of spacetime.

See: Unclassified, "Antigravity for Aerospace Applications", Defense Intelligence Reference Document, Acquisition Threat Support

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