

# Hard Questions For My Esteemed Colleagues

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You are invited to participate in a forum of top scientists to explore a fascinating set of fundamental questions that are now being seen in a new way. We may be on the verge of a major paradigm change. These questions will require input from many particular disciplines. Many creative individuals from seemingly non-related disciplines are also being encouraged to contribute their unique way of looking at things to a forum where these questions can be explored and possibly resolved.

Is the Electromagnetic Quantum-Flux really there? Are these ephemeral photons physically moving through Space? Are *these* photons somehow lacking in the momentum and energy that is associated with any other photons, such as those that come from the Sun? **If** they are really there, is there some reason that we cannot freely use *these* photons just as we use the free energy of the Sun?

Is the Radiation-Pressure Interpretation of Casimir-Force Experiments physically true? Does unbalanced Radiation-Pressure of the Electromagnetic Quantum Flux of the Zero-Point Energy Field impart energy and momentum to Casimir's one moving plate? Have we *already* tapped the momentum and energy of the Photons of the Zero-Point Energy Field, perhaps just a *little* bit?

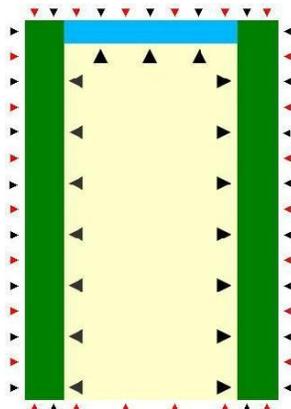
The peer-reviewed literature discusses a "Repulsive Casimir Effect." In terms of the Radiation-Pressure Model this means that the Quantum-Flux Radiation-Pressure is expected to build inside certain small cavities to a level that is higher than the Ambient Radiation-Pressure. **How can we find out if this is really true?** **If** it turns out to be true, does this mean that the roofs of these cavities will experience a *continuous* net force??? Is it *possible* that the momentum and energy of the photons of the Quantum-Flux could continuously move a large array of nanoscopic cavities? Is there **any** chance that we could obtain a useful, continuous macroscopic thrust and energy from the Quantum-Flux?

Let's start by thinking about a **totally** enclosed box with **four walls**, one *ceiling* and one *floor*. If we fill that box with pressurized air, we find that each pair of the four opposite **walls** experience equal and opposite forces, the floor and ceiling **also** experience equal and opposite forces; therefore, there is no **net** force acting on the interior surfaces of the box; but suppose we remove the floor of the box: Each force that is acting on each of the **four sides**, is still negated by the force acting on the opposite **side**---but **now**, the **ceiling** of the box has no opposite interior side on-which the pressurized air can apply an equal and opposite force; therefore, the ceiling experiences an unopposed upward-directed force since its opposite interior side, the floor of the box, is now absent.

*If the Zero-Point Radiation-Pressure* inside a cavity with only one open side is really greater than it is *outside the cavity*, would it work the same way? Is there any possibility that the roof of the cavity would not experience a net force acting toward its ceiling? Is it some how different from other pressurized cavities with one open side? Is the following illustration an accurate portrayal of the Zero-Point Radiation Pressure that would be present?

The Large Arrows represent the Stronger Radiation-Pressure, inside the cavity. The Small Arrows represent the weaker Radiation-Pressure, outside the cavity.

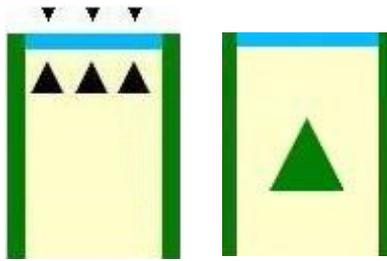
All Black Arrows represent those wave-lengths that are small-enough to fit inside the cavity. The small wave-lengths **also** occur outside the cavity where the pressure is small so *those* Black Arrows are small.



**Red** arrows are wavelengths that are too large to fit inside the cavity. They are so large that they push on the cavity opening as though it was a solid side. ▶◀▲▼.

All Arrows pushing on the cavity **sides** come in pairs that are equal and opposite. The Red Arrows that act downward on the Roof of the Cavity are counter-acted by those that push up across the opening. But . . .

*If* everything else really cancels, then we are finally left with three Large Arrows that are pushing **up** on the (blue) Ceiling of the cavity that are only **partly** counter-acted by three **Small Black** Arrows that push **down** on the Blue Roof. This hypothetical net force is represented by the large Green Arrow.



*The photons of the Quantum-Flux Disappear almost as soon as they reflect off the sides and ceiling. In other words, these photons are exiting the cavity by simply disappearing. Unlike the air molecules in the pressurized box, new ones continuously form, maintaining the high radiation pressure inside the cavity.*

Can we design and create macroscopic plate that is covered on one side with nanoscopic cavities wherein the enhanced radiation-pressure of the photons of the Quantum-Flux, inside these cavities, exerts a net force on the ceilings of those cavities? Would it fail to work for all the same reasons as the air-pressure in our floorless box? Can we *really* know if this is possible without doing the experiment?

Diverse experts and other creative people are needed to participate in a forum to discuss the merits of these questions. Perhaps we will devise research strategies, plans, budgets and to write Grant Proposals. We need experts with experience modeling the Enhanced-Flux Cavity Model, as well as other experts that may be able to help further enhance the cavity pressures through resonance-optical pumping and other optical effects. We need experts in Nanophotonics, Cavity QED, Semi-conductor Engineering, Nano-structured Materials, Modeling, Nanophotonics, Relativity Theoreticians, Grant Proposal Writers, accountant, equipment supplies and facilities for all the above.--Plus people that just have imagination!

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