Correct interpretation for “Harvard Tower Experiment”
Or
Law of energy conservation for “free fall” photon

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Introduction [1]

You have mirror on table top, reflective side up. Now you have one photon, 100 m above that mirror, going straight down. As photon “fall down” its frequency is bigger and bigger, until it hits a mirror. Than it starts to go straight back up, now its frequency is getting smaller and smaller. When it passes 100 m mark, it will have same frequency as before.

My statement:

During all that voyage photon have same energy, REGARDLESS of its change in frequency.

In other words:

Total energy of photon is product of photon frequency and Planck's “constant". [1]

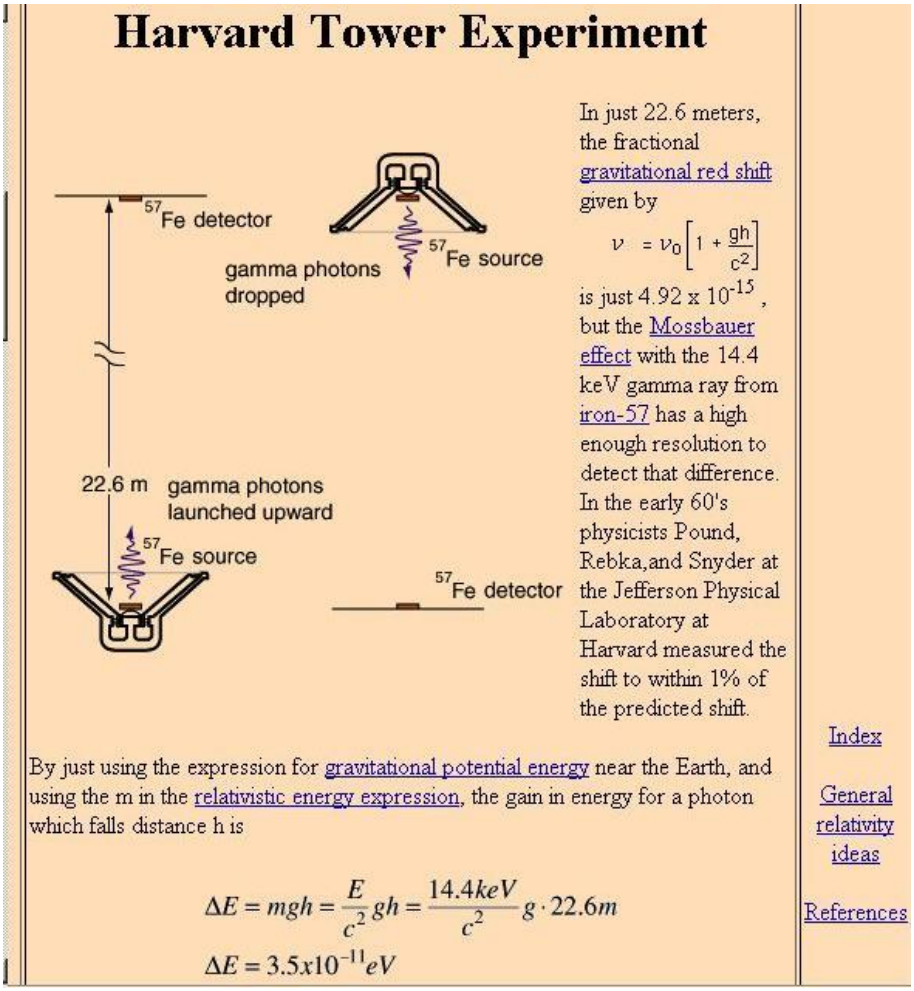
Or otherwise:

“Planck's constant” must be gravitational field dependent, VARIABLE, in order to accommodate law of energy conservation. (See page 14, 15 in [1])

Experiment [2], [3]

In “Harvard Tower Experiment” photon energy is different

I will try to explain “Harvard Tower Experiment” in my own view, and compare that with current standard explanation.



[2]

In picture you see two identical, gamma photon sources.

1) When they are next to each other, they photons will have same frequency and same energy.
2) When you leave one at the earth surface, and take other and lift it 22,6m above the first one: [1]
    - You need to work to do that
    - You will increase energy of every constituent part
    - You will increase every constituent mass, and size.
    - You will increase energy of the process that will radiate gamma photon.
    - Therefore you will have gamma photon of greater energy.
    - That gamma photon will have SAME frequency as one radiated at earth surface, but it will have GREATER energy.

In other words:

If you stand back and look at the sources of gamma photons in picture [2].
You will see that they have same frequency as they leave the source, but they ALREADY have different energies.

Standard interpretation is: [2]
a) Energy of gamma photon from source above is the same as energy from gamma photon, originated out of source below, because they have same frequency.
b) Energy of photon from source above is getting bigger and bigger as it falls down.

My interpretation is: [1]
a) Energy of gamma photon from source above is already greater from energy of gamma photon, originated out of source below, regardless of same frequency.
b) Energy of photon from source above is constant as it falls down…

Reference

[1] Oliver R Jovanovic, *Gravity, Planck constant, structure of elementary particles*, http://vixra.org/abs/1209.0087 (2012)
[2] Harvard Tower Experiment, http://hyperphysics.phy-astr.gsu.edu/hbase/relativ/gratim.html
[3] Harvard Tower Experiment, ^ Pound, R. V.; Rebka Jr. G. A. (November 1, 1959). "Gravitational Red-Shift in Nuclear Resonance". Physical Review Letters 3 (9): 439–441. Bibcode:1959PhRvL...3..439P. doi:10.1103/PhysRevLett.3.439.