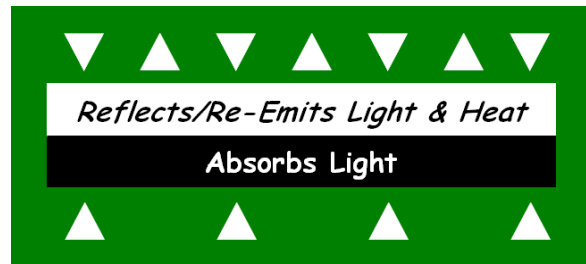


A Tale of Two Materials !!!

At first glance it appears impossible to utilize the vast energy of the Zero-Point Energy Field. Why? A more descriptive name for the Casimir Force is light-pressure. The photons of the Quantum Flux exert many tons of light-pressure on us all the time; however, since this pressure is equal in all directions, all of these forces *seem* to add up to zero *net* force; fortunately, things are not always as they *seem*!!!

In principle, the quantum-pressure of the photons of the Zero-Point Energy Field (ZPE) can impart up to twice as much *momentum* to one side of a solitary *macroscopic* object as to its opposite side---despite the fact that the quantum pressure is the *same* on *both* sides! This is possible because the material on one side of the isolated object can be engineered so that it primarily *reflects* the photons of the Quantum Flux while the material on its other side primarily *absorbs* them. In other words, one side experiences *elastic* collisions with these photons while its opposite side experiences *inelastic* collisions with these photons. This results in a net Casimir Light-Pressure Force that acts on a single *isolated macroscopic* object!



This arrangement is *far* easier to construct than other Casimir Force Devices since we are not dealing with nano-scale *structures*. We merely have to identify or create two materials, one which does an especially good job of absorbing EUV wavelengths and a second material that does an especially good job of reflecting these wavelengths. Preferably in the 50 nm wavelength or smaller. Smaller is *much* better!!!

This can be accomplished at a *macroscopic* scale and can result in dramatic forces net forces that vary from grams to tons, depending on the effective relative bandwidth of the two materials. Depending on the relative effectiveness of these two materials, we could soon own free home generators and fuel-less automobiles. (Even the machines *themselves* will be free from the standpoint that we will be purchasing with just part of the money we had been spending on electricity or fossil fuels.)

nm	PSI	nm	PSI	nm	PSI	nm	PSI
1	191,676	14	4.989	27	0.5777	40	0.1023
2	11,980	15	3.786	28	0.4907	41	0.09192
3	2366.37	16	2.925	29	0.4194	42	0.08285
4	748.73	17	4.989	30	0.3607	43	0.07487
5	306.68	18	3.786	31	0.3118	44	0.06783
6	147.9	19	2.925	32	0.2710	45	0.06160
7	79.83	20	2.295	33	0.2366	46	0.05607
8	46.80	21	1.826	34	0.2075	47	0.03928
9	29.21	22	1.471	35	0.1828	48	0.03611
10	19.17	23	1.198	36	0.1616	49	0.03325
11	13.09	24	0.9856	37	0.1434	50	0.03067
12	9.24	25	0.8182	38	0.1277	51	0.02833
13	6.71	26	0.6849	39	0.1141	52	0.02622

The table on the left, shows these pressures in *pounds per square inch*. For example, at 6 nm we see a value of 148 psi. This is the total quantum pressure that is attributable to all wavelengths that are greater than or equal to 6 nm

To determine the light pressure that is attributable to just those wavelengths that include 9 nm and ten nm and every wavelength inbetween: We simply subtract the pressure value for 10 nm and above, from the (larger) pressure value for 9 nm and above:

$$29 - 19 = 10 \text{ psi}$$

The Following Chart Gives the Total Amount of Pressure Within *Each* One-Nanometer Bandwidth---all by itself!

LPD Chart 10-12-08

Bandwidth			Pa	PSI		Bandwidth			Pa	PSF		
1	to	2	nm	609,375,000	837,891		34	to	35	nm	53	11
2	to	3	nm	32,600,309	44,825	Shuttle Launch: 38 M N	35	to	36	nm	46	9
3	to	4	nm	5,485,629	7,543		36	to	37	nm	40	8
4	to	5	nm	1,499,063	2,061		37	to	38	nm	35	7
5	to	6	nm	538,457	740	One Car engine/inch^2	38	to	39	nm	31	6
6	to	7	nm	230,823	317		39	to	40	nm	27	5
7	to	8	nm	112,029	154	One flying man/inch^2	40	to	41	nm	24	5
8	to	9	nm	59,621	82		41	to	42	nm	21	4
9	to	10	nm	34,070	46.8		42	to	43	nm	19	4
10	to	11	nm	20,604	28.3		43	to	44	nm	17	3
11	to	12	nm	13,049	17.9	Home generator/inch^2	44	to	45	nm	15	3
12	to	13	nm	8,588	11.8		45	to	46	nm	13	3
13	to	14	nm	5,838	8.0		46	to	47	nm	12	2
14	to	15	nm	4,081	5.6		47	to	48	nm	11	2
15	to	16	nm	2,921	4.02		48	to	49	nm	10	2
16	to	17	nm	2,136	2.94		49	to	50	nm	9	2
17	to	18	nm	1,591	2.19		50	to	51	nm	8	2
18	to	19	nm	1,204	1.66		51	to	52	nm	7	1
19	to	20	nm	925	1.27		52	to	53	nm	7	1
20	to	21	nm	720	0.99		53	to	54	nm	6	1
21	to	22	nm	567	0.78		54	to	55	nm	5	1
22	to	23	nm	452	0.62		55	to	56	nm	5	1
23	to	24	nm	364	0.50		56	to	57	nm	5	1
24	to	25	nm	295	0.406		57	to	58	nm	4	1
25	to	26	nm	242	0.332		58	to	59	nm	4	1
26	to	27	nm	199	0.274		59	to	60	nm	3	1
27	to	28	nm	166	0.228		60	to	61	nm	3	1
28	to	29	nm	138	0.190	Home generator/ foot^2	61	to	62	nm	3	1
29	to	30	nm	117	0.160		62	to	63	nm	3	1
30	to	31	nm	99	0.136		63	to	64	nm	3	0.5
31	to	32	nm	84	0.115		64	to	65	nm	2	0.5
32	to	33	nm	72	0.099		65	to	66	nm	2	0.4
33	to	34	nm	62	0.085		66	to	67	nm	2	0.4 Ion Rocket/in^2

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