

Re: Using solar energy, in an alternative way.

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In article <3645a9c9-ec0f-453e-9c7c-5a785e29d8be@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, pixzor@xxxxxxxxxxxxxxxx says...

Ok, hopefully this doesn't just sound crazy, but I was just thinking about a number of ideas that look like they could work together. Imagine, a large parabolic mirror, placed on the equator, and then try to imagine a regular sized satellite, as a mirror in geostationary orbit positioned just over the focal point. I remember the Russians testing a space based mirror for extra light, so none of this seems too unrealistic.

What is your source of information for the alleged Russian tests? I have heard lots of tests attributed to them, tests that never took place. This sounds like one of them.

So in the mid day sun, after some rotation of the ground based mirror, it might then be possible to focus the reflected light from the satellite to within a very small point, at the centre of the large dish on the ground.

But remember that sunlight, unlike laser light, is incoherent. So you cannot make the "very small point" arbitrarily small. Especially not with atmospheric turbulence, scattering, refraction and diffraction. And clouds!

But this is not the real problem: the real problem is, how do you keep airplanes, people and birds from wandering too close to the beam? And what about the heating of the air around the beam? Far less intense heat makes hurricanes in the Caribbean.

The idea I had was that the light, reflecting down from space through the earth's atmosphere could be used to heat a narrow column of the atmosphere to extremely high temperatures.

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And this could have very bad effects, as alluded to above.

I am aware that some attempts have been made to use ionized air with electromagnets to lift a craft upwards. So would it be possible, maybe using a Taurus shaped craft with the plasma focused through the middle for the craft to pull itself up along the ionized air into space?

Ok, I know it would get really really hot inside that thing, and that the Force of the photons exerted on the satellite might push it into space, but would the craft be able to build up enough speed to escape the earth's atmosphere?

I haven't done the back-of-the-envelope calculation, but my instincts lead me to guess the following answer: even if it did work, it would be a hideously inefficient way to accomplish it. You seem to think that somehow electromagnets would be more efficient than a rocket, but why? It sounds like you are trying to get a free ride off of the solar energy of the beam. But this might not even work, since you would disturb the ionized air too much with the electromagnets.

BTW: how were you planning to keep the ion beam focused? In Tokamak reactors, this takes a lot of wire and energy: why would your case be any different?

As for "the Force of the photons exerted on the satellite", yes, there is such a force, but it is the heat from the photons you should be worried about. Once you have enough photons to make a noticeable push, you have enough to heat even the best reflectors. Now what are you going to do to dissipate that heat?

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