

## For Immediate Release

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### John's Creek Aerospace Engineer Wins Patent on Reversing Global Warming



Johns Creek, GA (October 18, 2020): The United States has awarded a patent for the "Glitter Belt" invention by aerospace engineer and retired Georgia Tech professor Dr. Narayanan Menon Komerath. "Glitter Belt" is a method to deploy and operate an array of ultralight reflective sheets using Unmanned Aerial Vehicles (UAVs) 100,000 feet above the earth. Flying 24-7 for an indefinite period far above winds and clouds, the sheets reflect sunlight back into Space at full intensity. "Glitter Belt" is how they appear from Space.

Glitter Belt's "Flying Leaf" UAVs generate aerodynamic lift from the sheets, reducing night-time altitude loss compared to previous solar-powered aircraft. In the Patent's Summer Follower scheme, Flying Leaves steadily move north or south to stay with the peak summer Sun. This maximizes effectiveness while ensuring that the longest night is only 12 hours, crossing the equator during the spring and fall equinoxes.

What airports would be needed? None, says the inventor. The Leaves can be launched from and recovered at an open field at slow speeds. The ultralight sheets themselves may get crumpled if returned to the surface. "No big deal," says Komerath, "just recycle and replace them". Shadows or the Glitter Belt itself, cannot be seen from the ground. Black lower surfaces

absorb night-time radiated heat from the ground, warm up the sheets and thus radiate much of that heat out into space as well.

Even at the extreme size needed to reverse “global warming” into “global cooling” at the same current rate (roughly 3 watts per square meter of the earth's surface area, per the Inter-Governmental Panel on Climate Change), the cost will be moderate for the benefit achieved. “Less than just the US government’s outlays during the 2008 economic crisis, for example”, according to Komerath. “The number of sheets needed for full-speed global cooling is in the hundreds of millions, but before that, data collection, analyses and simulation will be needed. If we encounter ill effects, we can recall or redeploy UAVs from specific parts of the world, unlike previous schemes”.

However, no government outlay is needed beyond the cost of initial development, validation and obtaining international agreements. If the US law were to lead with a law to recognize that reducing sunlight is as effective as reducing greenhouse gas emissions, industry and nations can use Glitter Belt deployment in lieu of Carbon Credits. Complementing carbon reduction efforts such as tree-planting, Glitter Belt deployment will also increase jobs and industry, according to Komerath.

Will this end concerns with global warming? Komerath says it just needs national and international will. A US-led global partnership can distribute production, with launch and control facilities across the world.

Is there a political angle to this? “Sea level rise is certainly threatening island communities and America’s coastline. We can reverse that by changing the balance between summer melting and winter freezing at the edges of the icecaps. That would be the start, to buy time as we cure the global problem”, Komerath says as he thanks and credits the “enthusiasm of many college and high school students” for inspiring early work and persistence on the concept. He explains: “Our job as engineers is to show that there is least one viable and sustainable solution to alleviate a threat, and that it overcomes all known objections. This solution does not force society to choose between responsible economic development and alleviating Climate Change: we can have both. What gets implemented depends on society’s priorities.” Of course we would love to help as much as we can!

More details on the GlitterBelt can be found at <http://komerath.space/glitter-belt-reversing-global-warming/>