

Hyperstealth Dark Matter Detector

By Guy Cramer, President/CEO,
Hyperstealth Biotechnology Corp.

(Vancouver, B.C., October 23, 2020) I filed a patent application for Hyperstealth in September 2019 that can split a single laser into millions of smaller lasers that are clones of the parent laser, the diameter of these cloned lasers is in the micrometer and nanometer scale and since they are all polarized in the same direction and can be confined to a tight cone, these lasers may be able to detect weak interactions with axion particles of dark matter. New computer models suggest that axions modulate light polarization and most lasers are polarized.

Dark matter permeates around us like a wind, but it does not seem to interact with normal matter, pressure or radiation. Normal matter is attracted to dark matter due to the gravitational pull and hydrogen clouds in the early universe would never have formed into stars had it not been for the extra pull of dark matter, which clumped together much earlier than normal matter which was hindered from clumping due to the high radiation of the early universe. Without dark matter, we would not exist.

The visible presence of quantum mechanics with our laser splitting makes this a viable candidate for dark matter detection if those particles behave more like waves than particles.

The elusive and hypothetical “Axion” is now a leading candidate for a theoretical dark matter particle that is thought to make up 85% of all matter in the universe. Scientist have not yet detected dark matter, hence the name “dark”, it doesn’t emit or reflect light but we can see the effects of dark matter in massive astronomical bodies such as galaxies which don’t have nearly enough visible mass to hold together, with the dark matter even shaping them into spiral galaxies. Astronomers also see gravitational lensing which look like rings around galaxies, these rings are produced from the light of other galaxies behind them being bent into the ring due to this extra nonvisible mass of the galaxy in front. A filament structure that has been identified throughout the universe where galaxies cluster is also thought to be made up of dark matter as calculations show visible matter could not accomplish this within the 13.8-billion-year age of the universe without dark matter being present. The Axion may also account for the reason that matter and antimatter didn’t completely annihilate each other near the beginning of the universe
<https://www.sciencedaily.com/releases/2020/03/200310114721.htm>

Hyperstealth’s patent pending laser splitter can produces so many lasers that within an experimental area of 3 meters x 2 meters, the total number of lasers is the equivalent of one laser 60,000 kilometers long, that’s the equivalent of 1½ times around the Earth. Expanding the length to 100 meters would provide the equivalent of one laser that is 2 million kilometers long, which is more than 5 times farther than the Moon is from the Earth.

The previous leading dark matter candidate was the WIMP (Weakly Interacting Massive Particles) theorized to be a million times heavier than an electron but have failed to be detected over many years of searching. Theoretical physicists have turned their attention to the Axion, which should be roughly a billion times smaller than an electron. If detected and their mass is calculated and verified, it will provide insights into our universe that should answer numerous key questions over a wide area of scientific fields. The fact that the particle is so lightweight means that it will behave more like a wave than a particle.

When I compressed one of our laser circles, an interference pattern formed indicating quantum mechanics was at play, the line that makes up the circle is composed of 1000 smaller lasers. <https://vimeo.com/357107792> Optical experts have since confirmed that my quantum mechanics assumption was “100% accurate”. The visible presence of quantum mechanics with our laser splitting makes this a viable candidate for dark matter detection if those particles behave more like waves than particles. The double slit experiment in physics, shows an interference pattern and demonstrates the light can both behave like a particle and a wave.

In September 2019, a team from the Institute for Cosmic Ray Research at the University of Tokyo theorized that their model suggests that axion dark matter modulates light polarization, which is the orientation of the oscillation of electromagnetic waves. They suggest using the gravitational-wave observatories, such as LIGO in the U.S., VIRGO in Italy or KAGRA in Japan to enhance this polarization modulation through the lasers in the long tunnels which have mirrors on either end to bounce the lasers back and forth.

<https://www.sciencedaily.com/releases/2019/09/190918112433.htm>

Most dark matter experiments need to be done nearly a mile deep (about 2 kilometers) underground to avoid any interference from cosmic rays or gamma rays which would potentially cause false positive readings. These buried infrastructures are in South Dakota, Minnesota, Japan, Italy, China, and Finland. The theoretical neutrino particle was discovered by this method as Ray Davis discovered them by building a neutrino detector deep in an old gold mine in South Dakota in the late 1960's and early 70's. Davis was awarded the Noble prize in 2002 for his neutrino discovery.

<https://www.scientificamerican.com/article/physicists-go-deep-in-search-of-dark-matter/>

In Canada we have the Sudbury Neutrino Observatory, which is 2.1 Kilometers deep and Art McDonald, the director of the experiment, was co-awarded the Nobel Prize in Physics in 2015 for his experiment's contribution to the discovery of neutrino oscillation. <https://www.cbc.ca/news/technology/nobel-prize-physics-2015-1.3258178>

Gravitational-wave detectors (GWD) are not buried below the surface of the Earth and the mirrors in the GWD are relatively immune from cosmic rays, calculated to strike the mirrors once in a millennium. Gamma ray burst have been detected by gamma ray telescopes but not picked up by GWD. However, the two lasers run 4 kilometers each in two different directions at 90 degrees to each other and bounced back the same tunnels from a mirror and then compared to each other, called the most accurate rulers ever built, any movement (distance changed) between the two lasers are register by interference which indicates gravity waves. Several detections have been made from neutron stars and/or black holes colliding somewhere in the universe. <https://www.ligo.caltech.edu/video/ligo20160211v6>

If an axion interacted with these long lasers and not the mirrors, would it be distinguishable from a gamma ray or cosmic rays? The GWD may not be practical as a dark matter detector as it would be difficult to rule out false signals from other cosmic sources.

One of the dreams for developers of quantum computers was to find a way to tightly pack millions of lasers together that are entangled and to do it at room temperature, I believe we have already achieved those two items.

Hyperstealth gained world media attention last year with our broadband invisibility cloak,

<https://vimeo.com/359612995>.

The patent pending configuration creates a negative refractive index which improves the invisibility effect, a feat thought by most scientist to be impossible.

<https://vimeo.com/358907310>

Professor Sir John Pendry, theoretical physicist, is the world leading theorist in optical materials, called our new lens configurations "*an ingenious application of classical optics*" and "*This is a limited, but useful, form of invisibility*".

<http://invisibility.ca/discovery.html>

A benefit of our Hyperstealth laser splitting technology is that it does not need to be super cooled as many of the dark matter experiments do. Many of these other experiments use quantum computers or technology derived from them which do require constant supercooling. One of the dreams for developers of quantum computers was to find a way to tightly pack millions of lasers together that are entangled and to do it at room temperature, I believe we have already achieved those two items. Making this technology into a practical quantum computer will have to be left to others. Using it as a dark matter detector on the other hand may prove rather simple.

Another Hyperstealth patent application is a Solar Panel Amplifier that can triple solar panel output
<https://vimeo.com/362809256>

If the experiments to detect dark matter with our laser splitting system are done at one of these deep underground facilities, the overall stable polarization (or resulting electric field) of all the lasers could be measured on a very sensitive sensor, the experiment may not take up a lot of space as the cone of 20 million confined lasers could be compressed to a few meters wide and with each laser measuring 3 meters long, would be the equivalent of one 60,000 kilometers long laser, at 10 meter length would equal a laser 200,000 kms long and 100 meter length would be equivalent to a laser 2 million kms long and still only be a dozen or so meters wide at that length. This variability could allow for experiments to determine what proportion of dark matter makes up a given space.

If the first experiment finds any indication of a slight polarity or electromagnetic variation within the whole group of lasers, it may indicate an axion(s), or other exotic particles, are interfering with one or more of the 20 million lasers. This would then require an upgraded sensor to monitor groups of the lasers to further refine the detection like a spider on a spider web monitoring each quadrant and ideally you would want to monitor each laser individually to determine the mass of any axion.

All four patent applications utilize new configurations of lenticular lenses in some form. This one creates holographic like videos and are being considered for immersive rooms and wait line entertainment in theme parks, military decoys, inexpensive stand-in for monitors, televisions, and large LED displays.
<https://vimeo.com/357020131>

Last week Hyperstealth released a video which demonstrated that scaling up the power and diameter of the parent laser, should allow the smaller 20 million lasers to be converted into an ultra-high resolution, long range LiDAR system which could detect and identify soldiers, flying drones, submerged submarines, stealth aircraft, secret spacecraft... It could render most Camouflage, Concealment and Deception (CCD) obsolete for all branches of the military. <https://vimeo.com/468571343>

About the author:

Guy Cramer is the grandson and former research assistant to Donald Lewes Hings, P.Eng, M.B.E., C.M., the inventor of the Walkie-Talkie just prior to World War II and inventor of 55 other patents. Hings received the Member of British Empire award shortly after WWII and the Order of Canada in 2001 which is the highest civilian award granted in Canada. <http://www.hyperstealth.com/DonHings/>

Hings was the world expert on Air Ions and after his passing in 2004, NASA's Jet Propulsion Laboratory (JPL) requested Cramer's help in this field regarding a classified program they couldn't discuss with him. After supplying the research they requested, the JPL told him that they believed it saved them between 10-15 years of R&D. Guy also corresponded with NASA's Deputy Director, at his request, regarding the potential dangers from newly discovered high altitude lightning for the Space Shuttle with a substantial increased risk while crossing over the continental U.S. when it landed at Kennedy Space Center. High Altitude lightning is much more powerful than typical lightning and was considered the second leading candidate for the Space Shuttle Columbia Accident. <http://superforce.com/shuttle/index.htm>

Guy is the President/CEO of Hyperstealth Biotechnology Corp. which is a private Canadian company that has developed numerous camouflage patterns for militaries around the world with over 6 million military issued uniforms that use Hyperstealth patterns. Hyperstealth also create patterns for several hunting companies such as Sitka, W.L. Gore & Associates, Harkila, Beretta and Columbia Sportswear. Guy is considered the leading camouflage pattern designer in the world with over 14,000 patterns to his credit. He started developing for countries in 2003 when he was commissioned by King Abdullah II of Jordan to develop for their Armed Forces and Civil Defense. Cramer discovered a way to add fractals to camouflage which are repeating geometric shapes found in nature and causes the subconscious to ignore the camouflaged target longer than non-fractal patterns as determined by numerous tests at West Point Military Academy. He has worked with Lt. Col. Timothy R. O'Neill, Ph.D., (U.S. Army Retired) since 2004 who is the world expert on camouflage.

Guy filed his first patent for Hyperstealth shortly after cofounding the company in 1999, the "Passive Negative Ion Generator" which emits negative ions without a power source.

Guy has demonstrated his invisibility material to numerous high level military groups in Canada and the U.S.; Canadian Special Forces JTF2 (Joint Task Force 2) counter-terrorism unit from Dwyer Hill, CSIS (Canadian Security and Intelligence Service), Canadian Forces Soldier System Programme Management, U.S. Navy Special Warfare (Navy SEAL teams) with five different demonstrations for DEVGRU (Development Group = SEAL team 6), USMC Sniper Instructors and FBI Hostage Rescue Team at their base in Quantico, VA, Marine Corps Warfighting Lab (MCWL), U.S. Army Natick Soldier Research Development and Engineering Center, 1st Special Forces Operational Detachment-Delta, commonly referred to as Delta Force or CAG (Combat Applications Group). U.S. Secret Service,... <http://invisibility.ca/story.html>

The Hyperstealth invisibility cloak has been featured on New Scientist, DailyMail UK, Telegraph UK, BBC, CTV's Your Morning, CTV News, Global News, Dezeen, CBS Radio, Now This News, Express UK, The Sun UK, The New York Post, The World News, WIRED, LADbible, MSN, Reuters, engineering.com, CNET...

In January 2020, Guy was asked to be a Keynote speaker at "Les Napoleons" in Val d'Isère, France. A French bi-annual conference series and global community of top-ranking experts. The focus was on the ethical issues around a technology like his invisibility cloak: This closed interview was a separate part of that event <https://vimeo.com/389010511>

All four patent applications were published last year and Guy provided over 100 minutes of videos demonstrations and explanations for Hyperstealth in 2019. These can be seen on each of these Hyperstealth sites: New sites <https://www.hyperstealth.net> and <http://invisibility.ca>

Our old website <https://www.hyperstealth.com/> The format on our old site cannot be modernized without removing images and pages that are required to establish original copyright publication dates for our numerous camouflage patterns.

This paper and information © Copyright 2020, Hyperstealth Biotechnology Corp., All Rights Reserved.

Hyperstealth is a registered Trademark of Hyperstealth Biotechnology Corp.