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CONTENTS

| S. No. | TITLE | Page No. |
|--------|--|--------------|
| | Defence News | 1-8 |
| | Defence Strategic National/International | 1-8 |
| 1. | Military leaders will have to match political vision behind theaterisation: CDS | 1 |
| 2. | Indian military must be prepared for threats from China, Pakistan: CDS Bipin Rawat | 3 |
| 3. | Transformation of Indian armed forces a prerequisite to stay relevant: Bipin Rawat | 4 |
| 4. | Indian Army begins training Turkmenistan Special Forces in combat capabilities | 5 |
| 5. | Turkmenistan Special Forces commence Combat free fall training at Indian Special Forces Training School | 6 |
| 6. | तुर्कमेनिस्तान स्पेशल फोर्सेज का भारतीय स्पेशल फोर्सेजके प्रशिक्षण स्कूल में कॉम्बैट फ्री फॉल प्रशिक्षण शुरू | 6 |
| 7. | Indian Navy demonstrates amphibious assault capabilities of Andaman & Nicobar Islands | 7 |
| | Science & Technology News | 8-12 |
| 8. | A potential model for a real physical warp drive | 8 |
| 9. | Doubling creation of antimatter using same laser energy | 9 |
| 10. | New microcomb could help discover exoplanets and detect diseases | 10 |
| | COVID-19 Research News | 11-12 |
| 11. | Researchers identify cause, potential treatment for Covid-induced heart damage | 11 |

Military leaders will have to match political vision behind theaterisation: CDS

General Bipin Rawat said the Indian armed forces face greater challenges than any other military in the world and India urgently needs to bring about structural reforms in higher defence and operational organisations.

India's military leadership will have to "more than match the political vision" that has mandated the creation of theatre commands to address future security threats, chief of defence staff General Bipin Rawat said on Thursday, while highlighting the need to stay prepared to counter threats from China and Pakistan, even as he stressed that the former seeks to "establish dominance" in the country's neighbourhood and the Indian Ocean Region.



CDS General Bipin Rawat's mandate includes bringing about jointness in operations, logistics, transport, training, support services and repairs and maintenance of the three services. (AFP PHOTO).

Rawat said "service parochialism" will have to make way for "a combined services outlook" to take theaterisation forward, calling for the military's transformation to "outthink and outfight" India's adversaries.

"It will not be easy and the transition to theatre commands will indeed be a challenging process. There is a need to create and propagate the narrative of strategic advantages that accrue at the national and armed forces levels (with theaterisation)," CDS said on the eve of a top commanders' conference to be addressed by Prime Minister Narendra Modi on March 6.

Theaterisation refers to placing specific units of the army, the navy and the air force under a theatre commander. Such commands are led by an officer from any of the three services, depending on the roles assigned to them.

The military is putting finishing touches to its theaterisation plan for the most advantageous utilisation of its resources to fight future wars, with the Air Defence Command and the Maritime Theatre Command set to be launched by May.

Rawat said integrating operating concepts seeks to create the conditions to “outthink, outfight and outpace” India’s adversaries. He was speaking at a virtual event - Transformation: Imperatives for the Indian Armed Forces - organised by the Secunderabad-based College of Defence Management.

“Such seminars are expected to generate ideas about evolving joint structures that will address voids at the strategic and operational levels that single-service commands at present fail to address,” Rawat said. He said the military currently has 17 single-service commands, none co-located with each other and with each of the three services discharging their operational and strategic roles in isolation -- “a marked lack of synergy in operations”.

The points raised by CDS are extremely relevant, said former Northern Army commander Lieutenant General DS Hooda (retd).

“We cannot continue with 17 individual commands while paying lip-service to integration and joint war fighting. The three services will have to look beyond their stovepipes and work with CDS to find the best model and optimum command and control arrangement for integrated commands that is suitable for India,” Hooda added.

Apart from the Air Defence and Maritime Theatre Commands, India is expected to have three other integrated commands to secure its western, northern and eastern fronts - these will be rolled out by December 2022. In addition, a logistics command is in the works to avoid duplication of efforts and resources.

CDS’s mandate includes bringing about jointness in operations, logistics, transport, training, support services and repairs and maintenance of the three services.

“Theatre commands will optimise resource utilisation and lead to savings that can be used for force modernisation,” Rawat said. The military is expected to make a presentation to the PM on the situation along the borders and progress made towards the creation of theatre commands at the Combined Commanders’ Conference being held at Kevadia in Gujarat on March 5-6.

Rawat said the Indian armed forces face greater challenges than any other military in the world and India urgently needs to bring about structural reforms in higher defence and operational organisations.

“Some important steps that we need to take include defining the national security strategy, higher defence strategic guidance, and structural reforms in higher defence and operational organisations.”

Rawat also spoke about remodelling organisational structures to fight future battles.

“The organisational structure for conventional wars or limited conflicts under nuclear overhang already exists. But it needs to be re-modelled, re-equipped and re-oriented to conduct joint battles in digitised battle space to have necessary flexibility for other types of operations,” he said.

CDS said the main dimensions of the military’s transformation relate to doctrine, force structure, technology, sustenance and readiness. Referring to the border standoff in eastern Ladakh, he said, “We stood up to our belligerent neighbour on the northern borders and thwarted its nefarious design. Now, more than ever, military transformation is vital to us.”

<https://www.hindustantimes.com/india-news/military-leaders-will-have-to-match-political-vision-behind-theaterisation-cds-101614869810785.html>

Indian military must be prepared for threats from China, Pakistan: CDS Bipin Rawat

Synopsis

"Military power as an instrument of state policy needs to transform at various levels including ground strategic i.e. political-military, strategic operation and tactical level. Main dimensions of transformation are doctrine, post structure, technology, sustenance and readiness," he added.

Observing that the Indian military faces greater challenges than any other military in the world, Chief of Defence Staff Gen Bipin Rawat on Thursday said there is a need to study transformational concepts and to be prepared for threats for military primary arising from China and Pakistan.

In his keynote address during a national webinar on "Transformation: Imperatives for Indian Armed Forces" organised by the College of Defence Management (CDM), Secunderabad, Rawat said that India is facing complex security and a challenging environment.

"Some important steps that we need to take, include-- defining the national security strategy, higher defence strategic guidance, structural reforms in higher defence and operational organisations," he said.

CDS said that the 20th century has seen profound changes in the character and nature of warfare due to information inclusivity and technological development.

"New tools and tactics can be employed to connect rapidly to an audience like never before. Information is indeed more democratised today. India needs to take adapt its defence strategies accordingly," he said.

"Military power as an instrument of state policy needs to transform at various levels including ground strategic i.e. political-military, strategic operation and tactical level. Main dimensions of transformation are doctrine, post structure, technology, sustenance and readiness," he added.

Rawat asserted that the Indian military faces greater challenges than any other military in the world and hence need to study transformational concepts adopted in other countries carefully to cater to the spectrum of warfare.

"Since independence, the Indian military has grown from a small force with limited warfare capabilities into a large and modern fighting machine. The organisational structure for conventional wars or limited conflicts under nuclear overrank already exists, but they need to be re-modelled, re-equipped and re-oriented to conduct joint battles in digitised battlespace to have necessary exibility for other types of operations," he said.

"We must prepare for threats for military primary arising from China and Pakistan. In the future, China will continue to assert itself seeking to establish dominance in states surrounding India and the Indian Ocean region," he added.

Rawat suggested that India needs to work on maritime requirements including ensuring the protection of maritime interest, safeguarding assets, supporting Indian war efforts in conjunction with other forces.



Chief of Defence Staff (CDS) Bipin Rawat

"We must effectively also leverage the opportunity provided by our Island territories which enables us to extend our reach, orchestrate our defence strategy and also provide depth to the mainland," he said.

<https://economictimes.indiatimes.com/news/defence/indian-military-must-be-prepared-for-threats-from-china-pakistan-cds-bipin-rawat/printarticle/81328308.cms>

THE ECONOMIC TIMES

Fri, 05 March 2021

Transformation of Indian armed forces a prerequisite to stay relevant: Bipin Rawat

Synopsis

In his address to a webinar on Transformation: Imperatives for the Indian Armed Forces, he emphasised India was facing a complex and challenging security environment which calls for enhancement of military capabilities and requires addressing voids in national War-fighting ability.

Chief of Defence Staff General Bipin Rawat on Thursday said transformation of Indian armed forces has become a prerequisite to stay relevant in the fast changing geopolitical environment.

In his address to a webinar on Transformation: Imperatives for the Indian Armed Forces, he emphasised India was facing a complex and challenging security environment which calls for enhancement of military capabilities and requires addressing voids in national War-fighting ability.

"He outlined that transformation for Indian armed forces has become a prerequisite to stay relevant in the fast changing geopolitical environment and highlighted that a key strategic management competency is the ability to anticipate, prepare for and adapt to change," a Defence release said.

The two-day webinar is being organised by the College of Defence Management (CDM) at Secunderabad in Hyderabad from Thursday.

He also stressed the significance of evolving doctrine, force structures, technology and sustenance to create a futureready military.

The first day of the webinar included two major sessions on Organisational Imperatives and Structural Imperatives which were addressed by senior serving and veteran officers from the three Services, the release said.

As part of "Organisational Imperatives" for transformation, the speakers focused on the desired changes being sought in the Armed Forces, through promotion of jointness in training, staffing and procurement, it said.

The importance of restructuring of military commands into Joint Theatre Commands was also highlighted to achieve desired level of jointness in operations.

Various models of transformation were discussed to derive key concepts as applicable in Indian context, it said.

The afternoon session focused on issues pertaining to Structural Imperatives highlighting a conceptual framework on Theaterisation, for building a future-ready force.



Chief of Defence Staff General Bipin Rawat

The day's proceedings concluded with deliberations on a suggested model for Oceanic Theatre Command (OTC), the release added.

<https://economictimes.indiatimes.com/news/defence/transformation-of-indian-armed-forces-a-prerequisite-to-stay-relevant-bipin-rawat/articleshow/81333967.cms>



Fri, 05 March 2021

Indian Army begins training Turkmenistan Special Forces in combat capabilities

Turkmenistan's paratroopers will be trained in 'Combat Free Fall' as a precursor to a series of customised courses which will assist in their capability enhancement.

By Manjeet Negi

The Indian Army's Special Forces Training School on Thursday began the training for Turkmenistan Special Forces to help them build their combat capabilities. The Turkmenistani paratroopers will be trained in 'Combat Free Fall' as a precursor to a series of customised courses which will assist in their capability enhancement.

Taking to Twitter, the Indian Army said it was building bonds of friendship with Turkmenistani forces.

Building bonds of Friendship#SpecialForces Training School #IndianArmy has commenced training of #Turkmenistan Special Forces in #CombatFreeFall as a precursor to a series of customized courses to follow & help build capability of the Turkmenistan Special Forces.



A unique institution in itself, the Special Forces Training School (SFTS) is located in Nahan, Himachal Pradesh. It is responsible for providing training to the Indian Army's Special Forces.

The Special Forces of the Indian Army have over time earned immense respect and reputation of being one of the finest Special Forces in the world due to their professionalism, operational expertise and sacrifice.

Special Forces of friendly nations including the USA, Australia, countries of the Central Asian Region and the Middle East, have increasingly shown a desire to train with the battle-hardened

Indian troops. In response, the Indian Army's Special Forces have increased their engagement with their counterparts from friendly nations.

<https://www.indiatoday.in/india/story/indian-army-begins-training-turkmenistan-special-forces-in-combat-capabilities-1775748-2021-03-04>



Press Information Bureau
Government of India

Ministry of Defence

Thu, 04 March 2021 3:38PM

Turkmenistan Special Forces commence Combat free fall training at Indian Special Forces Training School

The Indian Special Forces (SF) have over a period earned immense respect and reputation of being one of the finest Special Forces in the world due to its professionalism, operational expertise, and sacrifice. Special Forces of friendly nations including the USA, Australia, countries of Central Asian Region & the Middle East have increasingly shown their desire to train with the battle-hardened Indian SF troops. In response, the Indian Army's Special Forces have increased their engagement with their counterparts from friendly nations.



Based on a request from the Turkmenistan Special Forces, the Special Forces Training School (SFTS) of the Indian Army, which is a unique institution providing training to the Indian Army's Special Forces, has commenced training of paratroopers from the Turkmenistan Special Forces in Combat Free Fall as a precursor to a series of other customised professional courses which will assist in capability enhancement of Turkmenistan Special Forces.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1702447>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Thu, 04 March 2021 3:38PM

तुर्कमेनिस्तान स्पेशल फोर्सिज का भारतीय स्पेशल फोर्सिज के प्रशिक्षण स्कूल में कॉम्बैट फ्री फॉल प्रशिक्षण शुरू

भारतीय स्पेशल फोर्सिज (एस एफ) ने अपनी व्यावसायिकता, सामरिक विशेषज्ञता और बलिदान के कारण दुनिया के बेहतरीन स्पेशल फोर्सिज में से एक होने का अपार सम्मान और प्रतिष्ठा अर्जित की है। संयुक्त राज्य अमेरिका, ऑस्ट्रेलिया, मध्य एशियाई क्षेत्र के देशों और मध्य पूर्व समेत मित्र राष्ट्रों के स्पेशल फोर्सिज ने युद्धक स्थितियों की कठोरता वाले भारतीय स्पेशल फोर्सिज (एस एफ) सैनिकों से प्रशिक्षण पाने की

अधिक से अधिक इच्छा जताते रहे हैं। इसके जवाब में भारतीय सेना के स्पेशल फोर्स ने मित्र राष्ट्रों के अपने समकक्षों के साथ संबंध और तालमेल बढ़ाया है।

तुर्कमेनिस्तान स्पेशल फोर्स के अनुरोध के आधार पर भारतीय सेना के स्पेशल फोर्स ट्रेनिंग स्कूल (एसएफटीएस), जो भारतीय सेना के स्पेशल फोर्स को प्रशिक्षण प्रदान करने वाला एक नायाब संस्थान है, ने तुर्कमेनिस्तान स्पेशल फोर्स के पैराड्रॉपर्स का अन्य अनुकूल पेशेवर पाठ्यक्रमों की एक श्रृंखला के रूप में कॉम्बैट फ्री फॉल में प्रशिक्षण शुरू किया है, जो तुर्कमेनिस्तान स्पेशल फोर्स की क्षमता वृद्धि में सहायता करेगा।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1702470>



The EurAsian Times

Thu, 04 March 2021

Indian Navy demonstrates amphibious assault capabilities of Andaman & Nicobar Islands

The Indian Navy flaunted a new landing craft during an amphibious assault exercise held last week. The war games were conducted under the Port Blair-based Andaman and Nicobar Command, the only tri-services command of the Indian Armed Forces.

The exercise saw the participation of around 300 troops of the Indian Army supported with six BMP amphibious infantry fighting vehicles (IFVs), 14 Navy ships along, with two Indian Coast Guard fast-attack craft.

The Andaman and Nicobar Command holds strategic importance for New Delhi as it would allow India to maintain dominance in the Indian Ocean Region, including the Strait of Malacca, a vital shipping channel between the Indian and Pacific oceans.

The command provides logistical and administrative support to the Naval ships on deployment to East Asia and the Pacific Ocean.

This 'multidimensional' drill was conducted at Swaraj Dweep (or Swaraj Island), which lies 50 kilometers northeast of the capital city Port Blair.

"The demonstration highlighted the synergy, co-operation, and interoperability between the services towards achieving desired outcomes," said the Indian Ministry of Defence in a statement on the exercise, quoted by Janes.

While the government remained tightlipped on the naming of Naval and Coast guard vessels, Janes reported that the images showed at least two Mk-IV Landing Craft Utility (LCU) vessels, and Polnochny D-class landing ship, Guldar (L 21).

Armed with BMP-derived CRN 91 30mm naval gun, Igla MANPADS, and various heavy and general-purpose machine guns for point defense, the Mk-IV LCUs are meant to transport troops and equipment, including heavy mechanized vehicles like BMPs.

Such vessels have been deployed by the Indian Navy in the past for maritime roles like maritime security, beaching, un-beaching, humanitarian relief operations and evacuation from distant islands, search and rescue operations, and peace-keeping missions.

The exercises are crucial for the Indian Armed Forces' ambitions to come under unified joint command structures, and experimenting into developing more ways to enhance the cooperation and synergy among the tri-services.

As the Indian forces don't have a dedicated amphibious attack unit like the US Marines, a division of the Indian Army has been converted into Amphibious Warfare brigades for this dedicated role, namely the 54th Infantry Division headquartered at Secunderabad in Telangana.

<https://eurasianimes.com/indian-navy-demonstrates-amphibious-assault-capabilities-of-andaman-nicobar-islands/>

Science & Technology News



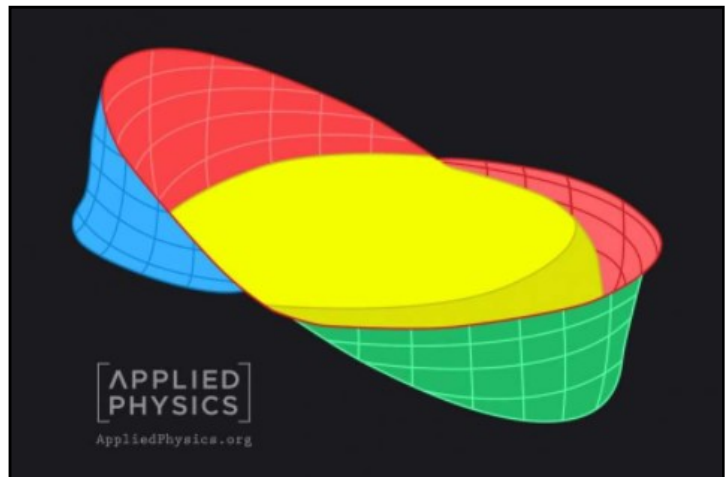
Fri, 05 March 2021

A potential model for a real physical warp drive

By Bob Yirka

A pair of researchers at Applied Physics has created what they describe as the first general model for a warp drive, a model for a space craft that could travel faster than the speed of light, without actually breaking the laws of physics. Alexey Bobrick, and Gianni Martire have written a paper describing their ideas for a warp drive and have published it in IOP's *Classical and Quantum Gravity*.

Back in the '60s, television viewers became familiar with the idea of a warp drive courtesy of the television show "Star Trek." When the crew needed to get somewhere fast, Captain Kirk gave his famous command ("Mr. Sulu, execute"), and the ship was pushed swiftly to another distant destination. Physicists have scoffed at the idea of a real warp drive, however, because it suggests travel faster than light. But in actuality, as the name of the drive suggests, such an engine did not actually push the craft faster than the speed of light; instead, it simply warped space time in a way that allowed for using a shortcut. Imagine a napkin. If you had to traverse its entire surface, it would take a certain amount of time. But what if you folded the napkin in half and moved through and across the folds? You could get to your destination in almost no time. In this new effort, the researchers have taken a previous idea based on warping space-time a step further to create a model for a warp drive that they believe could be feasible in the future.



Credit: Gianni Martire (Applied Physics)

Bobrick and Martire start with the idea of an Alcubierre warp drive, a concept developed by Miguel Alcubierre in 1994—he envisioned it as spacecraft that could contract space time in front of the vehicle while expanding it behind the craft. But such a craft would require a massive amount of negative energy, which would not be feasible for a real spacecraft. Bobrick and Martire suggest instead that a massive gravitational force could be used to bend space time. The trick is finding a way to compress a planet-sized mass to a manageable spacecraft-module size in order to use its

gravity. Because of the implied difficulties, a warp drive created from the model developed by the researchers could not be built today, but it does suggest that someday it might be possible.

More information: Alexey Bobrick et al. Introducing physical warp drives, *Classical and Quantum Gravity* (2021). DOI: [10.1088/1361-6382/abdf6e](https://doi.org/10.1088/1361-6382/abdf6e)

On Arxiv: arxiv.org/abs/2102.06824

<https://phys.org/news/2021-03-potential-real-physical-warp.html>



Fri, 05 March 2021

Doubling creation of antimatter using same laser energy

By Anne M Stark

Lawrence Livermore National Laboratory (LLNL) scientists have achieved a near 100 percent increase in the amount of antimatter created in the laboratory.

Using targets with micro-structures on the laser interface, the team shot a high-intensity laser through them and saw a 100 percent increase in the amount of antimatter (also known as positrons). The research appears in *Applied Physics Letters*.

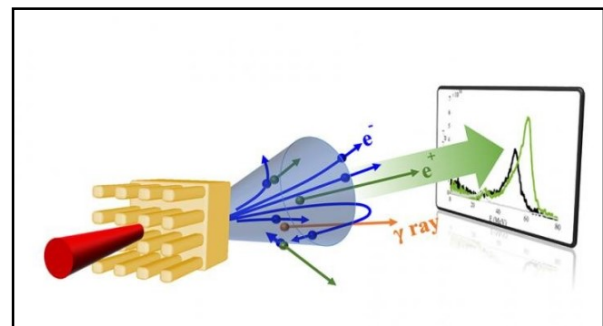
Previous research using a tiny gold sample created about 100 billion particles of antimatter. The new experiments double that.

"These successful experimental results are important for the Livermore positron project, whose grand goal is to make enough electron-positron antimatter to study the physics of gamma-ray bursts," said Hui Chen, the project lead and a co-author of the paper. "But we found that the experiments also created a high energy (MeV) X-ray backlighter that can penetrate very dense objects, which is important for many aspects of high energy density science."

When enough energy is squeezed into a very small space, such as during high-energy particle collisions, particle-antiparticle pairs are produced spontaneously. When energy transforms into mass, both matter and antimatter are created in equal amounts. In these experiments, intense laser-plasma interactions produce very high energy electrons whose energy, when interacting with the gold target, can generate electron-positron pairs.

The researchers used previous results and new simulations to design micro-structures, which could either enhance or diminish this interaction, leading to enhanced or suppressed positron generation relative the previous state of the art. Co-author Anthony Link said that "the agreement between the simulations and the experiment is remarkable, giving us confidence that we're capturing the most important physical mechanisms."

The ability to create numerous positrons in a small laboratory opens the door to new avenues of anti-matter research, including an understanding of the physics underlying various astrophysical phenomena such as black holes and gamma-ray bursts as well as a pathway toward a dense electron-positron plasma in the laboratory.



Laser light enters the micro-structure in front of the gold target, driving high energy gamma photons (orange) and particles, including the electron-positron antimatter pairs (blue and green). The experimental data shows that the micro-structure doubled the energy conversion from lasers to antimatter (relative to a target with no structure). Credit: Lawrence Livermore National Laboratory

"Adding front surface micro-structures to the typical gold target constitutes a cost-effective approach to substantially increase the positron yield while keeping the same laser conditions. It is one step further toward using laser-generated positron sources for the variety of applications," said Jiang Sheng, the lead author of the paper.

More information: S. Jiang et al. Enhancing positron production using front surface target structures, *Applied Physics Letters* (2021). DOI: [10.1063/5.0038222](https://doi.org/10.1063/5.0038222)

Journal information: [Applied Physics Letters](https://phys.org/news/2021-03-creation-antimatter-laser-energy.html)
<https://phys.org/news/2021-03-creation-antimatter-laser-energy.html>



Fri, 05 March 2021

New microcomb could help discover exoplanets and detect diseases

Tiny photonic devices could be used to find new exoplanets, monitor health, and make the internet more energy efficient. Researchers from Chalmers University of Technology, Sweden, now present a game-changing microcomb that could bring advanced applications closer to reality.

A microcomb is a photonic device capable of generating a myriad of optical frequencies—colors—on a tiny cavity known as a microresonator. These colors are uniformly distributed so the microcomb behaves like a 'ruler made of light.' The device can be used to measure or generate frequencies with extreme precision.

In a recent article in the journal *Nature Photonics*, eight Chalmers researchers describe a new kind of microcomb on a chip, based on two microresonators. The new microcomb is a coherent, tunable and reproducible device with up to 10 times higher net conversion efficiency than the current state of the art.

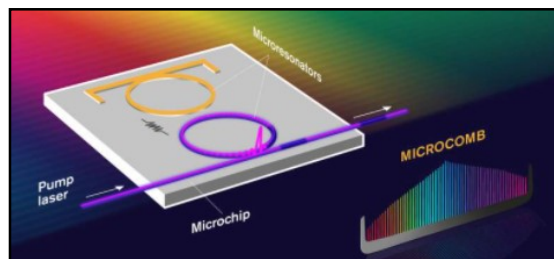
"The reason why the results are important is that they represent a unique combination of characteristics, in terms of efficiency, low-power operation, and control that are unprecedented in the field," says Óskar Bjarki Helgason, a Ph.D. student at the Department of Microtechnology and Nanoscience at Chalmers, and first author of the new article.

The Chalmers researchers are not the first to demonstrate a microcomb on a chip, but they have developed a method that overcomes several well-known limitations in the field. The key factor is the use of two optical cavities—microresonators—instead of one. This arrangement results in the unique physical characteristics.

Placed on a chip, the newly developed microcomb is so small that it would fit on the end of a human hair. The gaps between the teeth of the comb are very wide, which opens great opportunities for researchers and engineers.

A wide range of potential applications

Since almost any measurement can be linked to frequency, the microcombs offer a wide range of potential applications. They could, for example, radically decrease the power consumption in



Researchers at Chalmers University of Technology, Sweden, present a microcomb on a chip - based on two microresonators instead of one. It is a coherent, tunable and reproducible device with up to ten times higher net conversion efficiency than the current state of the art. Credit: Yen Strandqvist /Chalmers



PhD Student Óskar Bjarki Helgason demonstrates the chip and the experimental setup for generating the game changing microcomb. Credit: Mia Halleröd Palmgren, Collage: Yen Strandqvist /Chalmers

optical communication systems, with tens of lasers being replaced by a single chip-scale microcomb in data center interconnects. They could also be used in lidar for autonomous driving vehicles, for measuring distances.

Another exciting application for microcombs is the calibration of spectrographs used in astronomical observatories devoted to the discovery of Earth-like exoplanets. Extremely accurate optical clocks and health-monitoring apps for mobile phones are further possibilities. By analyzing the composition of exhaled air, clinicians could potentially diagnose diseases at earlier stages.

"For the technology to be practical and find its use outside the lab, we need to co-integrate additional elements with the microresonators, such as lasers, modulators and control electronics. This is a huge challenge that requires maybe five to 10 years and an investment in engineering research. But I am convinced that it will happen," says Victor Torres Company, who leads the research project at Chalmers. He continues:

"The most interesting advances and applications are the ones that we have not even conceived of yet. This will likely be enabled by the possibility of having multiple microcombs on the same chip. What could we achieve with tens of microcombs that we cannot do with one?"

More information: Óskar B. Helgason et al, Dissipative solitons in photonic molecules, *Nature Photonics* (2021). DOI: [10.1038/s41566-020-00757-9](https://doi.org/10.1038/s41566-020-00757-9)

Journal information: [Nature Photonics](https://www.nature.com)

<https://phys.org/news/2021-03-microcomb-exoplanets-diseases.html>

COVID-19 Research News



Fri, 05 March 2021

Researchers identify cause, potential treatment for Covid-induced heart damage

In severe cases of Covid-19, the immune system overreacts to the infection, releasing inflammatory molecules called cytokines into the bloodstream

Australian researchers at QIMR Berghofer Medical Research Institute have discovered some of the ways Covid-19 damages the heart and identified a class of drugs that could potentially protect or reverse this cardiac injury.

In severe cases of Covid-19, the immune system overreacts to the infection, releasing inflammatory molecules called cytokines into the bloodstream. This so-called "cytokine storm" can damage multiple organs, including the heart.

Canadian company Resverlogix has used the QIMR Berghofer research findings as the basis for expanding its clinical trial of the drug, apabetalone, in Covid-19 patients.

The head of QIMR Berghofer's Cardiac Bioengineering Research Group, Associate Professor James Hudson, said his team used thousands of lab-grown, miniature human heart organoids to understand how Covid-19 causes cardiac damage.



Canadian company Resverlogix has used the QIMR Berghofer research findings as the basis for expanding its clinical trial of the drug, apabetalone. (Representative image/Bloomberg)

"We exposed the bioengineered, stem-cell-derived heart tissue to Covid-19 patient blood and found it caused dysfunction even when the virus didn't infect the tissue."

The President and CEO of Resverlogix, Donald McCaffrey, said it had been a pleasure to work with the QIMR Berghofer team.

"We are excited that we can finally share publicly some of the incredible early results of our collaborative Covid-19 research program," McCaffrey said.

<https://www.hindustantimes.com/health/researchers-identify-cause-potential-treatment-for-covid-induced-heart-damage-101614814486892.html>

