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Tue, 07 Jun 2022

Why the Astra MK-I Missile Deal is Significant

On Tuesday, India's Ministry of Defence, signed a deal with Bharat Dynamics Ltd. (BDL) for the supply of an undisclosed number of Beyond Visual Range (BVR) air-to-air missile (AAM) - Astra MK-1 as a part of project Astra for the Indian Air Force (IAF) and Indian Navy. The deal is estimated to cost around Rs 2,971 crore, the move comes in the wake of cutting the dependency on Russian and French imports of missiles. The Astra Mark-1 is the first indigenously developed air to air missile to serve the Indian forces developed by the Defence Research and Development Organisation for the Sukhoi Su-30 MKI and Tejas of the IAF and the MiG-29K/KUB carrier of the Indian Navy.

What is project Astra?

Officially designed in the early 2000s, Project Astra is the program to develop indigenous BVM i.e., missiles beyond the visual range of 20 nautical miles or 37 kilometres and Air to Air Missiles that can be fired from air to an airborne target for close combat engagement. The first version of Astra-Mark-1 was developed in 2017 and has been tested successfully at various junctures. Astra-1 comes with a range of 110 km, the DRDO is also developing Astra-2 with a range of 150-160 km and a smaller range of Astra as well. The astra-Mk-1 has a maximum speed of Mach 4.5 (over 5,500 kmph).

What is the contract between Ministry of Defence and BDL?

The signing of the Astra MK-1 contract paves way for the development of a range of missiles in future. The missile ranges are purchased under the Buy (Indian-IDDMM) category of defence acquisition with a minimum of 50 per cent indigenous content calculated on the basis of cost of the total contract value, as reported by The Indian Express. DRDO has already shared the required technology and associated systems with the BDL for the manufacturing of Astra Mk-1. The project involves various public and private companies including Hindustan Aeronautics Limited (HAL). “The project essentially embodies the spirit of ‘Atmanirbhar Bharat’ and will help facilitate realising our country’s journey towards self-reliance in Air-to-Air Missiles” said Defence Minister Rajnath Singh.

Why is the Astra project significant?

Designed to cater to the specifications and requirements of the IAF. The project envisages to integrate the Astra missiles on the MiG-29 of the IAF and Light Combat Aircraft ‘Tejas’ Mk 1 in a phased manner and to give the air force extended time to take the necessary actions in a crisis. These missiles are planned to replace the existing Russian models of long-range air to air

missiles, Astra is believed to be technologically and economically better than its foreign counterparts. Key features like guidance and propulsion have now been designed and equipped entirely indigenously.

"The advantage of having your own missile of this class is that none of your adversaries are aware of its characteristics - how the missile behaves, what frequencies it uses or its limitations. It can also be improved or upgraded in-house, whenever the need arises," officials aware of the development process told The Economic Times.

<https://www.indiatimes.com/explainers/news/why-the-astra-mk-i-missile-deal-is-significant-571586.html>

Defence News

Defence Strategic: National/International

THE TIMES OF INDIA

Wed, 08 Jun 2022

China on Mind, Rajnath Visits Vietnam to Boost Defence Ties

Defence minister reached on a three-day visit on Tuesday to further crank up bilateral defence ties, in the backdrop of both countries being wary of the aggressive moves by China in the IndoPacific region. "India and Vietnam share a comprehensive strategic partnership and defence ties is a key pillar of this partnership. Vietnam is an important partner in India's 'Act East' policy and Indo-Pacific vision. I am looking forward to further strengthening the bilateral defence engagements," he said. Singh will hold extensive talks with his Vietnamese counterpart General Phan Van Gaing, with a focus on exploring new initiatives to further strengthen the defence engagements, besides exchanging views on regional and global issues of shared interest, the defence ministry said.

The defence minister is also scheduled to call on Vietnamese President Nguyen xuan Phuc and PM Phan Minh Chinh. "At the Hong Ha Shipyard in Hai Phong, the minister will preside over the handing over ceremony of 12 high-speed guard boats constructed under the Indian government's \$100 million defence line of credit to Vietnam," an official said. "Bilateral defence engagements have expanded over a period of time to include wide-ranging contacts between the two countries, including defence policy dialogues, military-to-military exchanges, capacity building and training programmes," he added.

<https://timesofindia.indiatimes.com/india/china-on-mind-rajnath-visits-vietnam-to-boost-defence-ties/articleshow/92069441.cms>

Wed, 08 Jun 2022

Australian Air Force Aircraft to Undertake Coordinated Operations with Indian Navy

A long-range maritime surveillance Boeing P8A aircraft of the Royal Australian Air Force (RAAF) arrived at INS Hansa, Goa on Monday on a three-day exercise with the Indian Navy. The coordinated operations began on Tuesday. In a brief statement, the Indian Navy said that the P8A will undertake coordinated operations with the Boeing P8I of the Indian Navy. "The P8I squadron, INAS 316 at INS Hansa, Goa, will interact and host the RAAF P8A aircraft. The RAAF P8A and the P8I aircraft will undertake coordinated operations involving anti-submarine warfare and surface surveillance from June 7 to 9," said the Indian Navy.

India and Australia are members of the quadrilateral security dialogue, known as the Quad, a strategic security dialogue between Australia, India, Japan, and the United States that aims at an open Indo-Pacific region. In April, the Indian Navy had deployed a P8I aircraft to Darwin, Australia for similar coordinated operations in northern Australian waters. The P-8A is a militarised version of the Boeing 737-800ERX. Indian Navy's P8I is a slightly modified variant of the American Boeing P8 Poseidon aircraft. The Indian and Australian P8 aircraft have been regularly undertaking coordinated operations as part of various bilateral and multilateral naval warfare exercises like MALABAR and AUSINDEX.

<https://www.indiatoday.in/defence/story/australian-air-force-aircraft-undertake-coordinated-operations-indian-navy-1959662-2022-06-08>

Tue, 07 Jun 2022

Centre Amends Rules for Appointment of Next Chief of Defence Staff

The Ministry of Defence has issued a notification amending the rules of defence forces for the appointment of next Chief of Defence Staff (CDS). The amendment to the service rules of the Army, Navy and Air Force will make serving three-star officers and retired three-and four-star officers eligible for appointment as the next CDS. As per the notification, the government may consider officers who are serving as Lieutenant General equivalent, General equivalent or officers who have retired in the rank of Lt Gen or Gen but have not attained the age of 62 years, for the post of CDS. According to the notification issued for the Air Force, the government may consider an officer who is serving as Air Marshal or Air Chief Marshal or an officer who has retired in similar ranks but has not attained the age of 62 years on the date of appointment. Similar notifications have been issued for the Navy.

The office of the Chief of Defence Staff was one of the biggest military reforms and has resulted in more coordination in working between the government and the defence forces. The defence forces in the country earlier used to go through bureaucracy to get their modernisation projects,

promotions cleared, but ever since the Department of Military Affairs was formed, all these functions have come under the military domain. The task of creating consensus on military issues among the three services has also been given to the CDS. The CDS post has been lying vacant since the passing away of General Bipin Rawat. India's first CDS was killed in a chopper crash in Tamil Nadu on December 8. The untimely death had raised questions about succession in the armed forces.

<https://www.indiatoday.in/india/story/centre-amends-rules-chief-of-defence-staff-appointment-1959484-2022-06-07>



Tue, 07 Jun 2022

Drones as Challenge as Insurgency in Kashmir Takes New Turn

The Border Security Forces (BSF) on Tuesday said it fired at a drone near the India-Pakistan border in the Akhnoor area of Jammu as Unmanned Aerial Vehicles (UAVs) are emerging as one of the major challenges for security establishment in the region. The paramilitary troops located a drone flying about 800m high along the International Border (IB) in Kanachak village, outside Jammu city. The J&K Police also recovered three magnetic IEDs dropped by the drone in the area. The payload of IEDs shot down by the forces was kept in tiffin boxes and were set with timers reportedly, however, the drone flew back. The latest incident of drone activity along the border was reported at a time when a top BSF officer termed drones as a prevalent threat to the entire border region including in Rajouri and Poonch which fall along the volatile Line of Control (LoC) in the Jammu division.

"Drone threat is prevalent everywhere on borders and so is in Rajouri and Poonch," DIG BSF Rajouri Poonch sector, DS Sindhu said. The officials claimed that the militant groups have been struggling for the past two years as military operations have killed almost all the top militants and most of this year's fresh recruits. About 40 militants were killed within three months of their joining various outfits, according to official data. The UT administration believes that the militancy in Kashmir is on the brink. "When the lamp is about to extinguish, the light is bright. It (militancy) is breathing its last breath and is trying to bounce back," LG Manoj Sinha said on Monday.

Since February 2021, India and Pakistan have been strictly adhering to the 2003 ceasefire agreement but there has been a gradual increase in incidents involving the smuggling of narcotics and arms and ammunition through UAVs. The use of drones is also being seen as part of the renewed efforts of the militant outfits – operating from across the LoC – to change the landscape of insurgency in Kashmir. There are growing concerns that militancy is evolving into a far deadlier state. A senior security official considered the use of drones to smuggle weapons and narcotics and targeted killings – in which as many as 19 civilians and security personnel were killed so far this year – to be the main traits of the current insurgency. "The militant groups are evolving and are learning from the conflicts such as in Nagorno-Karabakh and Ukraine where drone technology made significant interventions," another senior security official said.

The security officials believe despite intercepting multiple consignments, it is likely that many consignments have successfully brought magnetic IEDs or sticky bombs and smaller ammunition

like pistols to the region. The use of weapons like Kalashnikov has been reduced and there is more reliance on pistols, the weapon which is being used to carry out targeted killings, officials said. Tuesday's incident comes a week after a drone with a payload consisting of seven magnetic bombs and as many Under Barrel Grenade Launchers (UBGL) grenades were shot down along the border in Talli Hariya Chak of Kathua district in Jammu on May 29. The security network in Kashmir including the Army and J&K police has already prepared a report regarding the threat and challenges posed by the drones in the emerging scenario. To detect and destruct incoming drones, they are relying on the counter-drone system which was developed last year by the Defence Research and Development Organisation (DRDO) in the wake of threats from UAVs that heightened after an attack at Jammu airbase last year.

Since May, violence in Kashmir spiked as suspected militants carried out a series of targeted attacks against civilians including panchayat members, policemen, non-local labourers and members of the minority community. The fresh spurt of violence triggered protest and subsequent migration of scores of members from the minority community. Most of the killings are being attributed to the Lashkar-e-Toiba (LeT) and its off-shoot The Resistance Front (TRF), however, intelligence officials believe that most of the prominent outfits including Hizbul Mujahideen, Al Badr and others are operating closely. "Jaish, however, seems to have isolated its cadre in the region and are avoiding recruitment to minimise leakage which indicates that they may be planning for a spectacular attack," the official told *NewsClick*.

The officials added that there are apprehensions that the upcoming Amarnath Yatra, which begins by June end, might be one of the targets. In less than six months, nearly 100 militants have been killed across the valley this year of which a majority were locals and over 30 were foreigners, which is much higher than last whole year. The spate of targeted killings despite heightened security measures, arrests and military operations has posed fresh challenges for the authorities. These challenges are compounded by the use of drone tech to push weapons and drugs to aid militancy which, officials said, is providing "cost-effective" logistics to the Kashmir insurgency. "It (militancy) is becoming exclusive within isolated networks...and surgical," an official said.

<https://www.newsclick.in/drones-challenge-insurgency-kashmir-new-turn>



Wed, 08 Jun 2022

Military Potential of China's Zhu Hai Yun: The World's First AI-Powered Drone Carrier

By Kashif Anwar

In recent years, the world has witnessed intense competition between the US and China, ranging from economic and military dominance so that they could secure superiority in new emerging technologies like Artificial Intelligence (AI). AI is considered a part of the Fourth Revolution; it is an enabling technology rather than a weapon, thus providing wide application of the technology for civil and military purposes. In such a regard, AI has become one of the main aspects of power competition between the US and China. Currently, the US enjoys dominance in this field, but in recent years advancement made through Research and Development (R&D) in

AI in China has started to bridge the gap between countries. Unlike the US, China Overlaps the usage of AI and is using such technology for both civil and military purposes.

The recent launch of Zhu Hai Yun, the world's first AI-powered drone carrier, raises questions like whether such a vessel will be used only for marine research or if such technology could be transferred and used for military applications. As the Zhu Hai Yun is considered a mothership, it is equipped to carry drones, unmanned ships, and submersibles on board, along with various systems and three-dimensional observation capabilities. Further, it allows China to collect and have a detailed topographic chart – including the seabed – and marine information of any area of their interest. Meanwhile, China is currently working to replicate the US Navy Sea Hunter, an unmanned drone submarine they launched in 2016. In this regard, the development of Zhu Hai Yun – completely made in China – provides China with the needed opportunity to use such technology to build more AI-powered drones in the aerospace and maritime domain.

As Huangpu Wenchong Shipyard built the Zhu Hai Yun vessel in Guangzhou, it can be seen as an unmanned vessel and a drone carrier. It can carry unmanned aircraft, surface vessels, and submersibles on its deck. In addition, the vessel is equipped with the Intelligent Mobile Ocean Stereo Observing System (IMOSOS), which is built by the Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai). As the IMOSOS system provides the vessel with the capacity to conduct marine environment monitoring, disaster prevention and management, it also assists in collecting accurate marine information and other marine-related research activities.

With a displacement of 2,000 tonnes, a length of 88.5 meters, and a top speed of 18 knots (33 km per hour), it could operate automatically in the open waters, and if needed, it could be controlled remotely. Being labelled as a mothership, it could launch a swarm of drones for marine research and surveillance purposes, allowing China to understand and collect data on the topography and seabed of any region of their interest. As the seabed in the Malacca Strait region is uneven, in some regions, it ranges between 90 to 120 feet; having such a vessel at its disposal could come in handy to effectively navigate Chinese Naval vessels. It's being argued that with the availability of such technology and the convenience Zhu Hai Yun provides, it could be used as a military vessel by the Chinese Navy.

Meanwhile, Chen Dake, who oversees the vessel's development, argues, "Zhu Hai Yun is a new marine species capable of bringing revolutionary changes in ocean observations". The development of such a vessel enhances China's marine capabilities with higher efficiency at a lower cost as it involves fewer human operations. Further, Zhu Hai Yun is equipped with a three-dimensional dynamic observation system; it gives the drone carrier a three-dimensional view of any target region. Such dynamic observation capability is available as the vessels carry various air, sea, and submersible unmanned systems on the deck, giving both civil and military usage.

The military potential of AI-Powered Zhu Hai Yun

As the vessel is being projected as an asset available to be used only for marine-related purposes, it is being argued it could also be used for military applications and to deploy smart mines. Apart from deploying drones by Zhu Hai Yun for marine research purposes, it could be used as a platform to deploy unmanned weapons and surveillance systems in the future. In recent years, China has invested heavily to enhance its maritime defence capabilities and created many facilities to enhance ship weapon testing capabilities. In such light, Zhu Hai Yun can also carry out target searching, which provides an advantage to China vis-à-vis the US in the South China Sea and East China Sea region.

Zhu Hai Yun is considered a prelude to the People's Liberation Navy's (PLAN) Type 076, the Landing Helicopter Dock (LHD), which is currently in the development phase and can carry the

Unmanned Combat Aerial Vehicles (UCAVs) on its deck. On the other hand, developments and technological achievements give impetus to China and Chinese firms like Yunzhou Tech to develop such vessels. Moreover, Zhu Hai Yun acting as a mothership—to other drones and unmanned vessels – enhanced the Chinese Navy’s scope to conduct its drone swarming technology against its enemy effectively. Further the three-dimensional dynamic observations system will allow China to picture navigational routes and seabed better.

It additionally allows the Chinese Navy to effectively conduct overseas operations to secure its overseas economic and strategic interests. Considering how the Zhu Hai Yun could perform, it provides an edge to China if any conflict occurred along China’s coastline. Its launch came in the backdrop of the development of JARI, an uncrewed surface vessel (USV) referred to as a mini destroyer. With Zhu Hai Yun at its disposal, it provides a better scope for China to understand the topography and seabed of the East China Sea and the South China Sea region. China currently prioritises AI technologies to enhance its unmanned combat systems to conduct reconnaissance and surveillance and effectively protect its claimed territory. In addition, in recent years, China has effectively employed AI technology for domestic and military purposes. For example, in recent years, China has used unmanned aerial vehicles (UAV) in the East China Sea and the South China Sea region to enhance their deterrence capabilities in any future warfare.

Conclusion

With Zhu Hai Yun at their disposal, China is working to avoid any USS Connecticut accident. As the drone carrier carries various sensors on the board, it could provide a better picture of the topography of the seabed, which would come in handy at the time of conflict. In such a situation, viewing Zhu Hai Yun’s launch only from a marine research perspective wouldn’t be enough, as we would fail to acknowledge the validity of the vessel for military application. Such development came when China made immense growth in advancing its AI capabilities to develop unmanned surface vehicles for maritime security, controlling sea lanes and securing marine resources for itself. As China lacks export restrictions, the US is currently worried about the global proliferation of UAVs and other AI weapons. Thus, the unrestricted export of such technology and weapons in coming years needs to be looked upon as it will become a concern from an economic and security perspective.

Meanwhile, China and the US are engaged in stiff competition to obtain superiority in effectively using AI technology in the UAV system, which will only become intense in the coming years. The launch of the Zhu Hai Yun came when the relationship between the US and China on Taiwan Issue was going through a rough phase. Currently, the US-China is engaged in tense great power competition as the point of friction between both the countries has only widened. In recent years, the development of hypersonic and its defence weapon system, the Uyghur, Hong Kong, and Taiwan issues and development around the recent QUAD meeting have intensified the relationship between the US and China. For China, development in any technology should have ‘dual application’ (civil and military). In such a situation, the US-led West requires a broader approach and better communication and cooperation to ensure China’s rise doesn’t become assertive.

<https://www.financialexpress.com/defence/military-potential-of-chinas-zhu-hai-yun-the-worlds-first-ai-powered-drone-carrier/2551697/lite/>

North Korea Could Conduct Nuclear Test 'Any Time,' Says U.S. Envoy

North Korea could conduct a seventh nuclear test at "any time" and has shown no interest in returning to negotiations, U.S. Special Representative for North Korea Sung Kim said on Tuesday. North Korea has test-launched an unprecedented number of ballistic missiles this year and its officials have also used rhetoric that could suggest plans for the use of tactical nuclear weapons, Kim told reporters in a telephone briefing. Kim reiterated U.S. statements that Washington has assessed that North Korea is preparing to conduct a seventh nuclear test, and added, when asked when that might happen: "On timing, I don't have anything more. They've obviously done the preparations..., and my understanding is they could test any time."

Kim noted that on June 5, North Korea carried out test launches of eight ballistic missiles from various parts of the country, the largest number ever launched in a single day. "North Korea has now launched 31 ballistic missiles in 2022, the most ballistic missile it has ever launched in a single year, surpassing its previous record of 25 in 2019. And it's only June," Kim said. He reiterated U.S. willingness to engage diplomatically with North Korea without preconditions and said Washington was willing to address issues of concern to Pyongyang if it returned to talks. "However, to date, the DPRK has not responded, and continues to show no indication that is interested in engaging," he said, referring to North Korea by the initials of its official name. Kim, who spoke from Jakarta, where he also serves as U.S. ambassador to Indonesia, said he hoped that China would in future be more forthcoming in assisting efforts to persuade North Korea to denuclearize.

<https://economictimes.indiatimes.com/news/defence/north-korea-could-conduct-nuclear-test-any-time-says-u-s-envoy/articleshow/92066414.cms?from=mdr>

Science & Technology News

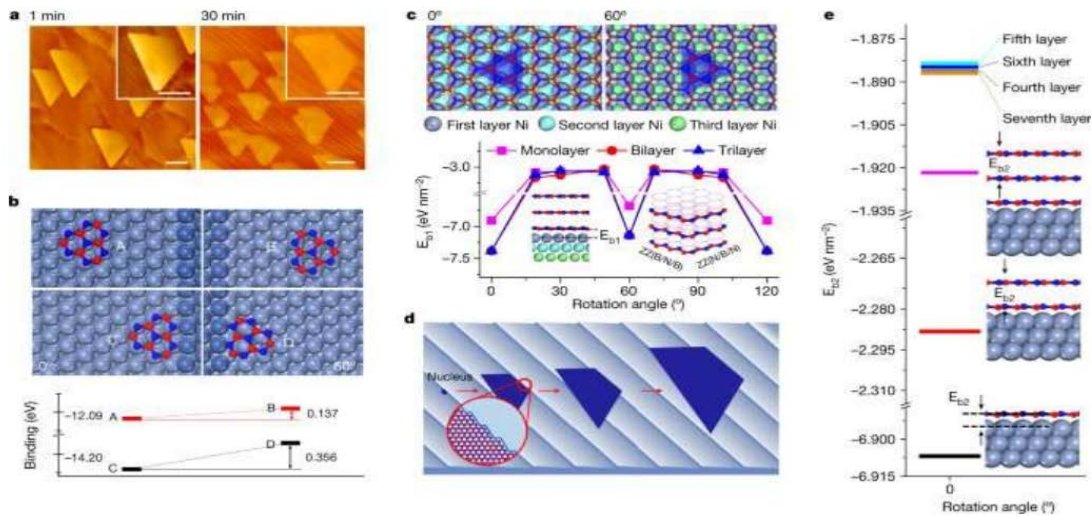


Tue, 07 Jun 2022

Using Chemical-Vapor Deposition to Build Five Layered Single-Crystal Hexagonal Boron Nitride Structures

A team of researchers affiliated with multiple institutions in the Republic of Korea working with a colleague from the University of Cambridge, has developed a way to use chemical-vapor deposition to build five layered single-crystal hexagonal boron nitride structures. In their paper published in the journal *Nature*, the group describes their technique and possible uses for such

structures. Soo Ho Choi and Soo Min Kim with Sungkyunkwan University and Sookmyung Women's University, respectively, have published a News and Views piece in the same journal issue, outlining the work done by the team on this new effort.



The mechanism of trilayer hBN growth.

Over the past several years, it has become clear that a replacement needs to be found for the silicon used as a substrate in the production of a wide variety of electronic devices. As part of that effort, hexagonal boron nitride has come to be seen as a possible successor. Up to this time, however, engineers have found it difficult to grow samples that are uniform enough for use in a production environment. And using the material to create multilayered structures has proven to be even more of a challenge. In this new effort, the researchers have developed a way to overcome such problems and in so doing have demonstrated five-layered structures using the material.

The technique by the group started with changes to the traditional ways to grow hexagonal boron nitride films as a single crystal. Their method involved the use of a crystal sheet that allowed for exposing the crystallographic nickel plane during the chemical-vapor deposition process. They also found that it was critical to place the growing structure in an environment with just the right temperature for the right application. They found that temperatures of 1,120 to 1,220 °C provided the best results. In their approach, small patches of nucleate grew first—over time they grew to cover the substrate. The researchers then showed that by varying the growth rate they could grow additional layers, leading to the development of a five-layered structure. They acknowledge that controlling the thickness of each layer to ensure uniformity proved challenging. The researchers suggest their work demonstrates that it is possible to build multi-layered single-crystal hexagonal boron nitride structures, opening up the possibility of their use in semiconductors.

<https://phys.org/news/2022-06-chemical-vapor-deposition-layered-single-crystal-hexagonal.html>

A Strategy to Attain Amorphous Silicon Solar Cells with Over 25% Efficiency

In recent years, engineers worldwide have been developing various new technologies to generate and store energy more sustainably. These technologies include solar or photovoltaic cells, electrical devices that can convert the light from the sun into electricity. Two promising types of solar cells are silicon heterojunction (SHJ) solar cells and perovskite/SHJ tandem solar cells. Both of these classes of solar cells are fabricated using hydrogenated amorphous silicon (a-Si:H), the non-crystalline form of silicon, which is also commonly used to build thin-film transistors, batteries and LCD displays. A-Si:H has been used to create photovoltaics for numerous years, due to its low defect density, tunable conduction and other advantages. As this material's advantages heavily rely on the configurations of hydrogen and silicon in 3D space, engineers must be able to control the material's microscopic structure with high levels of precision to fabricate highly performing devices.

In the past, materials scientists have tried to dope amorphous silicon using the metalloidal chemical element boron to harvest light from the sun more efficiently. However, so far most of them achieved poor and unreliable results. Researchers at the Chinese Academy of Sciences (CAS), Zhongwei New Energy, and King Abdullah University of Science and Technology (KAUST) have recently introduced a new strategy that could significantly improve the efficiency of Si:H thin films doped using boron. This strategy, introduced in a paper published in *Nature Energy*, essentially entails light soaking the films. "Due to the extremely low effective doping efficiency of trivalent boron in amorphous tetravalent silicon, light harvesting of SHJ devices is limited by their fill factors (FFs), a direct metric of the charge carrier transport," Wenzhu Liu and his colleagues wrote in their paper. "It is challenging but crucial to develop highly conductive doped a-Si:H with minimal FF losses. We report that light soaking can efficiently boost the dark conductance of boron-doped a-Si:H thin films."

In their experiments, Liu and his colleagues found that light can induce diffusion and the hopping of weakly bound hydrogen atoms in a-Si:H. This in turn activates boron doping, enhancing the material's light harvesting capabilities. The effect reported by the researchers is reversible and the team found that the material's dark conductivity spontaneously decreases over time, once the solar cells are no longer illuminated. Liu and his colleagues tested the effectiveness of their strategy by using it to boost the efficiency of SHJ solar cells. They then assessed the performance of their solar cells at a standard temperature of 25°C, using a solar light simulator.

Overall, the solar cells they doped using their method exhibited a remarkable certified total-area power conversion efficiency of 25.18% with an FF of 85.42% on a 244.63 cm² wafer. These results are highly promising and could be further improved in their next studies. The recent work by this team of researchers could have important implications for the development of SHJ solar cells and silicon-based photovoltaics. In the future, the strategy they proposed could be used to enhance the light harvesting properties of both existing and newly developed solar technologies.

<https://techxplore.com/news/2022-06-strategy-amorphous-silicon-solar-cells.html>

Dark Web: Think of it as Your Social Media Channels

Cybersecurity specialists are beginning to rethink the dark web. On our webinar last week, all the three panellists felt it is no longer useful to think of the dark web as a specific area in the internet that can only be accessed by using a browser or technology like Tor. It should rather be seen as any place on the internet where cyber-crime related activities are happening. “It could be Facebook, where someone is selling illegal items, or a website, or a Telegram channel,” Rahul Sasi, founder of cybersecurity firm CloudSEK, said.

ushi Mehta, senior consultant to the Indian Cyber Crime Coordination Centre of the ministry of home affairs of the central government, said the dark web should be seen as any platform that provides anonymity and could be used for crime. “Today, there are people who will provide an entire kit containing debit card, credit card, internet banking credentials, user name, password. Most of these are not on the Tor network, they are in cloud-based chat messengers, like Telegram, WhatsApp. You pay them and they’ll deliver it home. You can even get a sim card to receive the OTP. It’s simpler to operate on these chat messengers, instead of on Tor,” he said. Rohit Srivastwa, founder of cybersecurity firm ClubHack, said most criminal activity earlier was on Tor. “But now the focus is on the intent of an action, and it could be in FB or Telegram groups,” he said.

<https://timesofindia.indiatimes.com/trend-tracking/dark-web-think-of-it-as-your-social-media-channels/articleshow/92073363.cms>

