

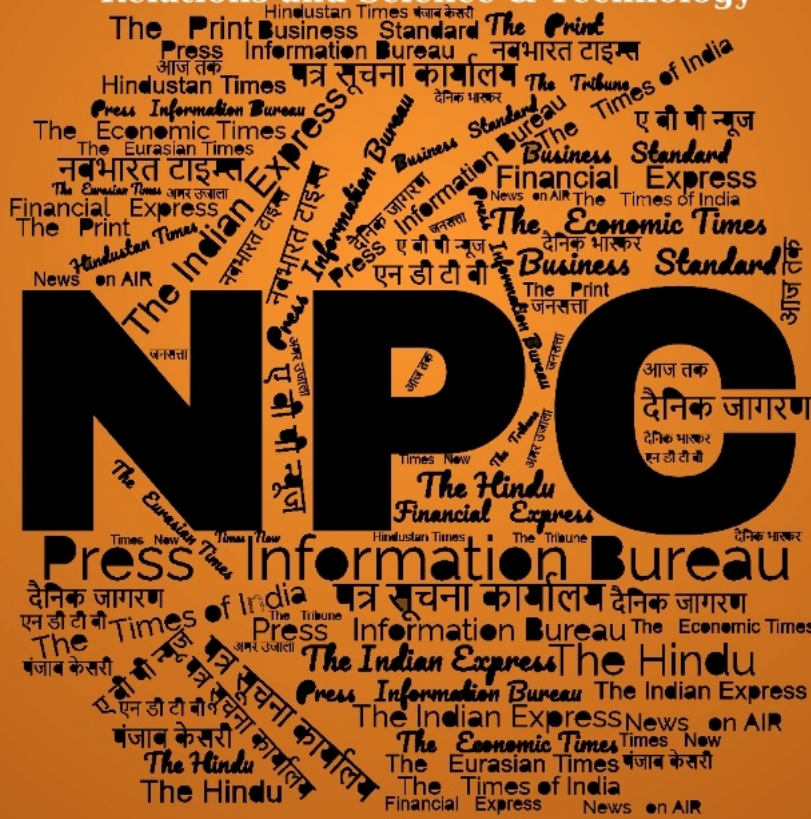
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Press Information Bureau
Government of India

Ministry of Defence

Wed, 04 Sep 2024

First Joint Commanders' Conference commences in Lucknow

CDS Gen Anil Chauhan stresses on integration across various domains for adapting to future warfare & conduct of effect based operations

The maiden Joint Commanders' Conference (JCC) commenced at Lucknow on 4 September 2024, under the theme 'Sashakt and Surakshit Bharat: Transforming Armed Forces'. The conference is focused on shaping the future of India's military to adapt to the changing operational milieu. Chief of Defence Staff General Anil Chauhan alongwith Chief of the Army Staff General Upendra Dwivedi, Chief of the Naval Staff Admiral Dinesh Kumar Tripathi, and Chief of Air Staff Air Chief Marshal Vivek Ram Choudhari led the convocation which brings together the apex level hierarchy from the Ministry of Defence and the Armed Forces.

Reviewing the current security situation and the defence preparedness of the Armed Forces, the CDS emphasized the importance of Jointness and future plans for enhancing integration across various domains, which is crucial for adapting to the contours of future warfare and conduct of effect based operations. Gen Anil Chauhan complimented the three Services for initiating numerous measures along the roadmap for integration. He stressed that it was a step by step process, beginning with Cross Service Co-operation leading to a 'Joint Culture' and finally achieving integration of forces for conduct of joint operations.

Deliberations also focused on establishment of command and control centres with the requisite infrastructure to facilitate decision making. General Chauhan stressed the need for operational preparedness to meet emerging challenges, underscoring the imperative need of modernisation to stay ready and relevant and achieve strategic autonomy.

Raksha Mantri Shri Rajnath Singh, is scheduled to attend the conference on the second day where he will engage in detailed deliberations with the senior officials of Ministry of Defence and the apex leadership of Indian Armed Forces.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2051760>



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Government of India**

Ministry of Defence

Wed, 04 Sep 2024

Curtain Raiser For HIM-DRONE-A-THON-2 & HIMTECH-2024: Setting The Course For Demonstration Of Drones In High Attitude Areas

Indian Army unveiled two landmark events; 'HIM-DRONE-A-THON 2' and 'HIMTECH-2024' landmark events designed to harness military technologies for operations in high altitude areas. Envisaged as an opportunity to the Indian Drone Industry to showcase the capabilities of their drone solutions for high altitude areas, HIM-DRONE-A-THON 2 will take place at Wari La, near Leh on 17-18 September 2024. It will be followed by HIMTECH-2024 on 20-21 September 2024, an event conceptualised to discuss, demonstrate and discover new avenues for development, incorporation and cross pollination of technology, ideas and innovations with focus on harnessing military technologies for high altitude areas.

Major General CS Mann, Additional Director General of the Army Design Bureau highlighted that the Indian Army is deployed from icy heights of the Siachen Glacier to the rugged Himalayas where its soldiers face unparalleled adversities daily. For drone operations, rarified atmosphere results in reduced lift and degraded engine performance which are further accentuated by extreme cold temperatures and high wind speeds. These conditions are unique for Indian Army and demand systems that can adequately perform in these conditions. Since such altitude battlefields are not prevalent anywhere else, tailormade, indigenous solutions are the way forward. If the indigenous industry succeeds here, it also opens vistas for them to international arena and establish India as a credible drone manufacturing hub.

HIM-DRONE-A-THON-2 will focus on drone solutions for Indian Army for high altitude areas. The event is planned to be conducted under actual terrain and environmental conditions at altitude of 4000-5000 meters. The event is open to all indigenous drone manufactures and invites their participation for demonstration of Surveillance drones, Loitering munitions, Logistics Drones, Swarm Drones and drones with specific capabilities / role / payloads ie; Electronic Warfare, Synthetic Aperture Radar, Communication Intelligence and Electronic Intelligence. As of now more than 25 Drone manufacturing firms have registered for participation in the event. All the firms will be competing in a multifaceted competition at super high-altitude area for proving their suitability and capabilities.

HIMTECH 2024 is being held for the first time in Leh, to highlight and focus on development of technology and system for meeting operational requirements along the Northern Borders. The event being held in collaboration with FICCI will not only showcase industry partners and new generation equipment developed for high altitude areas but will also project Leh as the new business destination for new technology developers, industry and academia. The event will provide

a platform to Indian Industries to showcase a wide range of the equipment and technologies comprising modern unmanned systems, all terrain mobility solutions, autonomous systems and advanced soldier systems.

The technology being demonstrated by the Indigenous Drone Industry, can also be harnessed for civilian use especially in high altitude areas and areas akin to terrain/ atmospheric conditions in Union Territory of Ladkaha.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2051715>



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Ministry of Defence

Wed, 04 Sep 2024

ICGS Sujay makes port call in South Korea as part of its ongoing overseas deployment to East Asia

Indian Coast Guard (ICG) Offshore Patrol Vessel Sujay, with an integral helicopter, made a port call at Incheon, South Korea on September 04, 2024, as part of its ongoing overseas deployment to East Asia. During the four-day visit, the ICG crew will engage in professional interactions with the Korea Coast Guard (KCG), focusing on Marine Pollution Response, Maritime Search and Rescue and Maritime Law Enforcement. The activities also include cross-deck training, joint yoga sessions, friendly sports events and Passage Exercises with the KCG.

A total of 10 cadets from NCC aboard the ICG Ship will participate in an Environment Protection Walkathon towards sensitising the community on the ill effects of marine plastic pollution with local youth organisations, in line with the Government's initiative 'Puneet Sagar Abhiyan' and enhancing international outreach.

The port visit of the ICG ship, during the conduct of the 20th Head of Coast Guard Agency Meeting at Incheon, highlights ICG's resolve and shared concern towards addressing maritime contemporary challenges for the common global good.

On March 13, 2006, ICG signed a MoU with KCG, towards enhanced maritime cooperation and institutionalised its cooperative engagements. Before the visit, ICG Ship Sujay had made port calls to Jakarta, Indonesia demonstrating a seamless continuation of diplomatic maritime engagements in the region.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2051711>



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Ministry of Defence

Wed, 04 Sep 2024

'Sashakt Sena, Samriddh Bharat' exhibition to be held in Ranchi to strengthen civil-military bond & motivate the youth

To strengthen the bond between the civil society & the Armed Forces and motivate the youth towards nation building, an exhibition, 'Sashakt Sena, Samriddh Bharat' will be held at Morabadi Ground in Ranchi, Jharkhand from September 06 to 08, 2024. Raksha Rajya Mantri Shri Sanjay Seth will grace the event, which will be attended by many civil and military dignitaries. It would be open to all, providing the people with an opportunity to know about the Armed Forces and interact with the soldiers.

The exhibition will feature a display of weapons & equipment, air show, daredevil motorcycle show, dog show and hot air ballooning. It will also consist of musical and cultural activities, including performances by various Army Bands, Kalaripayattu, Malkhamb, Bhangra & other martial arts performances, showcasing the diverse heritage of the country. In addition, motivational and awareness stalls will be set-up to provide career counselling to the youth about the process of joining and life in the Armed Forces.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2051661>



**Press Information Bureau
Government of India**

Ministry of Defence

Wed, 04 Sep 2024

Indian Navy And South African Navy Sign Implementing Agreement To Enhance Submarine Rescue Support Cooperation

In a significant milestone to develop bilateral naval cooperation, the Indian Navy and the South African Navy have signed an Implementing Agreement (IA) that ensures the safety of the South African Navy's submarine crew in times of distress or accident. This agreement was signed by Admiral Dinesh K. Tripathi, Chief of the Naval Staff of the Indian Navy and Vice Admiral Monde Lobese, Chief of the South African Navy. The Implementing Agreement underscores a shared commitment to maritime safety and mutual support. Under this agreement, the Indian Navy will provide assistance by deploying its Deep Submergence Rescue Vehicle (DSRV) when required,

further strengthening the collaborative ties between the two navies. This partnership reinforces the longstanding maritime relationship between India and South Africa.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2051795>



Wed, 04 Sep 2024

Army seeks to lower dependence on Chinese equipment

Acknowledging that use of Chinese equipment in drones is a “live issue” and anything remotely to do with data is where the vulnerability lies, Maj Gen C. S. Mann, additional director general of the Army Design Bureau, said that the Government has taken some actions and “appropriate methodology to address this will come into effect.” He added that there was no specific timeline.

A Himtech exhibition is being held later this month in Leh focusing on high altitude drone technologies along with a Dronethon. Companies will demonstrate a range of UAVs at altitudes of 4,000 to 5,000 metres.

“Anything to do with electronics is what has the potential for data transfer. Anything remotely to do with data is where the vulnerability lies. We are finding methods to overcome this aspect... Supply chains are dependent on Chinese components, how do we overcome them and how we are able to ensure they are not there... various methods are being deliberated upon and we will come out with a framework,” Maj Gen Mann said briefing the media on the upcoming events. At the upcoming event, this aspect would also be examined, he stated.

Excluding Chinese parts

Industry is taking conscious steps to ensure Chinese components are not part of sensitive equipment, especially electronic parts, said Ashish Kansal, Co-Chair of the FICCIDefence and Homeland Security Committee, and Executive Director of SMPP Pvt Ltd. He noted that there is dependency on China for supply chains.

On the Him-Drone-A-Thon 2 being organised on 17-18 September at Wari La in Leh, Maj Gen Mann said in addition to providing an opportunity to the Indian drone industry to demonstrate their drone solutions for high altitude areas, the event will also help the Indian Army identify products suitable for procurement.

“It will also provide valuable inputs for formulation of qualitative and operational requirements for future procurements. The Indian Army would also be able to suggest modifications and product improvement requirements,” he stated. Industry would get a firsthand experience of operational challenges faced by the Indian Army operating in these areas.

The event is being organised for five major categories: surveillance drones, logistics drones, swarm drones, loitering munitions, first person view drones, and drones with specific payloads like synthetic aperture radar, and electronic warfare. The event is being held in collaboration with industry body FICCI (Federation of Indian Chambers of Commerce & Industry).

Drones are critical

Maj Gen P. S. Bhatti with the Udhampur-based Northern Command said Himtech is being held for the first time in Leh, to highlight and focus on the development of technology and systems to meet operational challenges along the northern border.

In the last few years, the Army has undertaken a series of procurements: drones, loitering munitions, counter drone systems and other such technologies through various procurement routes. On the growing importance of drones in warfare, Maj. Gen. Mann said recent wars have amply highlighted the indispensability of drones in any future conflict due to their transformative impact on modern military operations.

For India, operating drones at high altitudes of 15,000 to 20,000 feet poses significant challenges: the rarefied atmosphere, low temperatures, and heavy winds.

<https://www.thehindu.com/news/national/system-being-evolved-to-keep-chinese-parts-out-of-sensitive-systems/article68606469.ece>



Wed, 04 Sep 2024

Super Dimona static simulator inaugurated at NDA for training of Air Force cadets

An indigenously developed static simulator for the multi-utility Super Dimona aircraft was inaugurated at the Air Force Training Team (AFTT) of the National Defence Academy in Pune on Tuesday. NDA Commandant Vice Admiral Gurcharan Singh inaugurated the facility.

“The state-of-the-art simulator has been developed indigenously at the Software Development Institute of the Indian Air Force. In keeping with the initiative of Aatmanirbhar Bharat, local industries were also involved in certain mechanical modifications, fabrication of flight controls, along with the use of display screens to create a realistic flying environment,” said a press statement from the NDA, issued through the Defence PRO, Pune.

“The simulation software, including flight dynamics, permits a 135 degree field of view immersive display to enhance the aerial visual experience of cadets. The simulator will serve as a crucial foundation for the future training of Air Force cadets, ensuring that the trainees are well prepared to embrace aviation with confidence. The installation of this simulator will elevate the overall training standards and proficiency of Air Force cadets at the National Defence Academy,” said the release.

The Super Dimona, which is a multi-utility aircraft of Austrian origin, is used to initiate the sixth term Air Force cadets to the powered flights. Before taking to the skies, Air Force cadets of the NDA are thoroughly familiarized with their machines. This gives them an insight to the working of the aircraft systems and all procedures and techniques to be followed to get airborne.

Attention is given to all aspects of flying training to enable the cadets to be in line with the ethos prevalent in the flying training establishments and units in the IAF. The trainees fly a total of 10 sorties as a part of their syllabus at the NDA.

<https://indianexpress.com/article/cities/pune/super-dimona-static-simulator-inaugurated-at-nda-for-training-of-air-force-cadets-9550470/>

THE ECONOMIC TIMES

Wed, 04 Sep 2024

India proposes dates for scheduled border talks with Bangladesh

A high-level diplomatic delegation of Bangladesh may arrive in India next month for the traditional bi-annual border talks with their New Delhi counterparts, official sources said.

The talks between the two sides, led by the BSF director general (DG) and the DG of the Border Guard Bangladesh (BGB), will be the first meeting of senior officials of the two neighbours for the exchange and sharing of information after the fall of the Sheikh Hasina government last month. Sources told PTI that India has proposed two sets of dates for these talks, one for later this month and the second for October.

The Bangladeshi side has indicated that they may go for the later date and may travel to India for about four-five days, including the days of arrival and exit, they said.

This will be the 55th edition of the DG-level talks between the BSF and the BGB which also includes officials from the Home Ministry, External Affairs Ministry, anti-narcotics, customs and some other federal agencies from both the countries who have stakes in border management. The last edition of these talks was held in Dhaka in March.

During that meeting, the Indian delegation led by then BSF DG Nitin Agrawal was able to extract Bangladesh's consent for the creation of a single-row fence at 92 vulnerable patches along the more than 4,000-km-long front, sources said.

"This decision, first approved in 2012, was also recorded by the two sides in the joint record of discussions signed at the end of the meeting. It was a major gain for India as this completed fence infrastructure will further strengthen security along the India-Bangladesh boundary," said an officer who was part of these deliberations.

The BSF guards the 4,096-km-long international Indian front with Bangladesh on the country's eastern side. While the sources said the forthcoming meeting will be held on the traditional issues and subjects related to "comprehensive" border management, curbing of cross-border crimes, mutual coordination in sharing of real-time intelligence along the front and the recent developments in Bangladesh "may guide the contours" of the meeting.

India's BSF and Bangladesh's BGB have been sharing a "great camaraderie and friendship" for decades now and both sides are expected to deepen this bond. Since the recent crisis, when Sheikh Hasina's government fell and she had to hurriedly leave her country, the coordination between both forces has been excellent, the sources said.

"Things were a little jittery for some time at the border after the August 5 developments but the BGB has been coordinating and cooperating well with the BSF to address and defuse incidents of infiltration or any other crime at this front," a senior officer said.

The directions to the BSF are that they will ensure there is no illegal infiltration into India in the aftermath of the fall of the Hasina government and the protests and violence surrounding the development, another officer said.

The BSF has asked its ground commanders to continue the policy of using non-lethal weapons (pump-action guns) first to check border crimes like cattle and goods smuggling. The troops have been asked to use lethal weapons only under grave or extreme threat to their lives while on duty or civilians, the other officer said.

Five Indian nationals, who strayed into Bangladesh territory onboard their boats, have not been handed over to India despite a request in this regard. They have now been sent to jail.

The incident took place weeks after the August 5 turmoil in the neighbouring country. These men were operating boats to check cattle smuggling on the directions of the BSF along the international border in West Bengal, the officer said.

The proposed talks are expected to take into account all the developments that are taking place along the front after the Bangladesh crisis, he said.

The scheduled time frame for these talks to be held in Delhi is for September-October but the meeting may also be postponed if top-level changes take place in the BGB and the home ministry of Bangladesh.

The Indian side will extend all courtesies and welcome them like always, the first officer said. The DG-level border talks were held annually between 1975 and 1992 but they were made bi-annual in 1993 with either side alternately travelling to New Delhi and Dhaka.

Over 230 people were killed in Bangladesh in the incidents of violence that erupted across the country following the fall of the Hasina government, taking the death toll to more than 600 since the massive protest by students.

An interim government led by 84-year-old Nobel laureate Muhammad Yunus is in charge of the country now.

<https://economictimes.indiatimes.com/news/defence/india-proposes-dates-for-scheduled-border-talks-with-bangladesh/articleshow/113069407.cms>

Deepening space & energy cooperation, talks on South China Sea: Takeaways from Modi's Brunei visit

India and Brunei Darussalam agreed Wednesday to strengthen their defence ties, explore potential cooperation in the supply of liquefied natural gas (LNG) and renewable energies, and deepen their long-standing space partnership, during the two-day visit of India's Prime Minister Narendra Modi to the South East Asian country.

"Under the energy sector, we discussed the potential for long term cooperation in LNG. To strengthen our defence cooperation, we held constructive dialogue on possibilities of cooperation in defence industry, training and capacity building," Modi said at the banquet hosted by Haji Hassanal Bolkiah, the Sultan of Brunei.

"To strengthen our cooperation in the space sector, we have agreed on cooperation in satellite development, remote sensing, and training," Modi added, according to a press statement issued by the Ministry of External Affairs (MEA).

Modi's visit to the South East Asian country—a first by an Indian Prime Minister—also saw the forty-year relationship raised to an enhanced partnership, underlining New Delhi's emphasis on its Act East Policy.

The year 2024 is the tenth year since the Act East Policy was first outlined by Modi in 2014. Within the first 100 days of the new government, India has received visits from the prime ministers of Vietnam and Malaysia, while India's President Droupadi Murmu made visits to Fiji, New Zealand and Timor-Leste.

Modi added at the banquet that India continues to give priority to the centrality of the Association of South East Asian Nations (ASEAN) to the region and supports the "freedom of navigation" and "overflight" under laws such as the United Nations Convention on the Law of the Sea (UNCLOS).

"We agree that a Code of Conduct should be finalised in this region. We support the policy of development, and not expansionism," Modi said, without naming China.

ASEAN has been negotiating a code of conduct in the South China Sea for the better part of the last two decades.

Brunei, Malaysia, the Philippines, Vietnam and China have overlapping maritime claims in the region, along with the self-governing territory of Taiwan. Tensions between the Philippines and China have increased, after a Chinese coast guard rammed into the flagship of Manila's coast guard —BRP Teresa Magbanua—on 31 August.

The incident was the seventh fracas in August between the two countries in the South China Sea. However, China's actions in the region have been ongoing for years. Its dispute with the Philippines saw a Filipino sailor injured earlier in the year.

“The leaders also urged all parties to resolve disputes through peaceful means in accordance with international law, particularly UNCLOS 1982,” the joint statement released by the MEA after the meeting between the two leaders said.

Burgeoning ties in space, energy discussed

For nearly three decades, the Indian Space Research Organisation (ISRO) has been operating a telemetry, tracking and command station in Brunei.

According to the joint statement released by the MEA, the two leaders renewed the agreement for the operation of the ground station. “Both leaders appreciated the long-standing arrangement under the Memorandum of Understanding (MOU) between the two governments and the conclusion of the renewed MOU welcoming further cooperation in the areas of mutual interest under the MOU,” the joint statement said.

The first agreement between the two countries on the ground station was in 1997, which was established in 2000. In 2018, a second agreement was signed between the two countries, allowing India to operate and maintain the ground station in Brunei, which was setup to track ISRO’s satellite and space launches.

India’s Prime Minister and the Sultan of Brunei also discussed potential cooperation in the LNG energy sector. This comes as trade ties between the two countries have dipped in recent years, especially as India has found other sources for oil.

Between 2009-10 and 2019-20, India’s imports from Brunei consistently crossed \$500 million, touching \$800 million in a few years due to its need for oil.

However, since 2020-21, India’s imports from the South East Asian country has fallen to around \$300 million, especially after the start of the Russia-Ukraine war, which has seen Moscow becoming an important energy partner for New Delhi.

<https://theprint.in/diplomacy/deepening-space-energy-cooperation-talks-on-south-china-sea-takeaways-from-modis-brunei-visit/2252592/>



Wed, 04 Sep 2024

SBL Energy inaugurates state-of-the-art TNT manufacturing plant in Nagpur

SBL Energy has taken a significant step towards strengthening the nation’s defence and industrial capabilities by inaugurating a new TNT manufacturing plant at its 225-acre facility in Yenvera, Nagpur, Maharashtra. This plant is only the second such initiative in India’s private sector, boasting a production capacity of 3,000 tons per annum. The facility is dedicated solely to exports, aiming to triple the company’s export reach to markets in Australia, Europe, and the United States.

The inauguration of the plant on September 3, 2024, by former Indian Defence Secretary Dr. Ajay Kumar, marks a pivotal moment in SBL Energy's growth strategy.

The leadership team, including CEO Alok Choudhari, President Divyansh Choudhari, and Col. Shailendra Pathak, President of the Defence Vertical, were present during the ceremony.

Chairman Sanjay Choudhari highlighted the significance of the new facility, stating, "Our TNT plant is poised to meet the increasing demand for explosives driven by industrialization, construction, infrastructure development, and mining activities. This plant is integral to our strategic vision of bolstering India's defence infrastructure and promoting self-reliance, in line with the government's mission to enhance indigenous production and defence exports."

The plant will not only reduce India's dependence on imported TNT but also ensure supply security and cost efficiency, particularly for the defence sector. It supports the production of a wide range of munitions, including bombs and artillery shells, and will play a crucial role in modernizing India's arsenals with more reliable and potent explosives.

This new venture is part of SBL Energy's broader strategy to expand its manufacturing footprint in India. Earlier this year, the company secured INR 325 crore in growth capital from marquee investors, which has been strategically deployed to fuel this expansion. With plans to establish another TNT plant of similar capacity in the future, SBL Energy continues to reinforce its position as a key player in both industrial and defence sectors, contributing to India's geopolitical influence through the supply of critical defence materials.

<https://www.financialexpress.com/business/defence-sbl-energy-inaugurates-state-of-the-art-tnt-manufacturing-plant-in-nagpur-3601081/>



Wed, 04 Sep 2024

‘Iconic’ U.S. Warthog Debuts In India – ‘Tank Killer’ A-10 Thunderbolt II Flies With Russia-Made Sukhoi-30 Fighters

The Indian Air Force's largest international exercise 'Tarang Shakti' has entered its second phase. Debuting in the desert phase of the wargames is the iconic Fairchild Republic A-10 Thunderbolt II 'Warthog.' In what could be its first and last appearance, the Warthog has been flying with Russian-origin fighter jets – Sukhoi 30MKI.

Two A-10s have arrived in Jodhpur, the IAF's premier base. Fighter jets, close air support aircraft, and tactical airlifters from Australia, the US, Greece, Sri Lanka, Singapore, and the UAE have congregated for the drills. Bangladesh has opted out of the exercise. Australia has sent three EA-18G Growler aircraft, its first combat deployment to India.

Considering the US Air Force intends to retire all A-10s over the next five or six years, the presence of the Warthogs has generated quite a buzz. In 2023, the USAF retired 21 A-10s, reducing its inventory from 281 to 260. The Air Force aims to continue this momentum, eventually phasing out all the A-10s from its inventory by 2029.

This phase will see participation from various Russian fighter jets and aircraft in the IAF fleet, such as Su-30MKIs, MiG-29 Fulcrum, and Il-78 air-to-air refuellers. India's homegrown fighter jet, Light Combat Aircraft (LCA) Tejas, and the newest asset acquired from France, Rafales, will also take part in phase II. The A-10, designed specifically to undertake a close air support role for American ground troops, has operated in conflict zones but has never operated alongside Russian aircraft. The video released by the IAF showcases two A-10s flying alongside a Sukhoi-30MKI.

The 'Warhog' has served in the USAF for 51 years. The A-10 flew for the first time on May 10, 1972, as the Vietnam War was winding down. The unusual aircraft came into being after the American F-5 Phantoms and F-111s failed to perform at low speeds in the Vietnam War. The Fairchild Republic designed an entire aircraft around a gun.

The most notable feature of A-10s is General Electric's GAU-8 30mm rotary cannon. Mounted on its nose, the Gatling gun is one of its kind fitted on an aircraft to date. The Warhog was nearly as long as it was wide. Its rapid bursts, seven barrels firing 65 rounds per second, have turned "an enemy soldier's bowels to water." The aircraft was conceived after the debacle of the US aircraft failed to provide close air support to its ground troops. Interestingly, the A-10—the best tank buster to ever fly—will be flying in the Indian deserts, which have seen some of the biggest tank battles in the world's military history. The battle of Longewala in 1971 saw the IAF's British-made transonic fighter jet Hawker Hunter come to the rescue of the Indian Army's armored troops.

A-10 – From 'A Leprous Project Led By A Pariah' To Becoming The Military's Favorite Plane

The Warhog's fuselage was little more than a massive 30mm rotary cannon with a cockpit stuck on top. It was called "a leprous project led by a pariah" (Robert Coram in the book titled 'Boyd.') The A-10 specifications team interviewed every pilot who flew during the Vietnam War and forward air controller. They all prioritized long loiter time, good range, excellent visibility, low-and-slow maneuverability, survivability, and lethal weapons. Thus came the A-10 Thunderbolt II, which valued "resiliency" and "function" over all else.

For years, it was ignored as a stepchild of its F-plane playmates. The A-10 was a shotgun marriage of World War II technology, turbofan engines, and massive artillery. The pilots had expected a smaller, lighter, more maneuverable airplane than what the Warhog turned out to be. The single-seater aircraft was simple, and until post-production upgrades happened in 1989, it lacked an autopilot. It did not even have a radar.

Another thing that the pilots did not favor was its painfully slow speed. It can do just over 365 knots but usually flies strikes at 300 knots or less. The joke is that A-10s don't have instrument panel clocks; they have calendars, and bird strikes from behind are a significant risk.

In the 1980s, when A-10 was deployed in West Germany at the peak of the Cold War, the flying branch predicted that if the A-10s went into action, seven percent of the jets would be lost per 100

sorties, translating to at least 10 A-10s being shot down every 24 hours. Contrary to the prediction, only seven Warthogs have been shot down or crashed due to combat.

It was all set to retire when it got its chance to fight against T-55, T-62, and T-72 – a fight it was designed for. The first Gulf War gave A-10s a second lease of life as they busted through tanks belonging to Saddam Hussain. Incidentally, India, too, operates T-72 at the moment. The Warthog turned out to be the most potent armor-killer ever to fly. The A-10 was also designed around a specific weapon—the General Electric GAU-8/A seven-barrel Gatling cannon, which, with its vast 1,174-round ammunition drum (mounted behind the pilot), is as big as a car. It fires 30mm cartridges nearly a foot long. The A-10 was designed to survive in hostile environments. The Warthog can survive direct hits from armor-piercing and high-explosive projectiles (up to 23mm).

After its success in Operation Desert Storm, the aircraft earned many monikers like ‘Warthog,’ ‘Flying Gun,’ and ‘Tankbuster.’ It was later deployed in support of NATO operations in Kosovo, Operation Enduring Freedom in Afghanistan, and Operation Iraqi Freedom. Its high survivability made it highly popular with pilots. It is effective as it can loiter near battle areas for extended periods and operate in low ceiling and visibility conditions. Most recently, a squadron of A-10 Thunderbolt II attack jets, specially modified to nearly triple their bomb loads, has been dispatched to the Middle East to boost US airpower in the region amid increased tensions with Iran-backed forces in Syria.

Warthog For Ukraine?

There has been clamor amongst the Ukraine sympathizers that instead of being sent to the boneyard, the A-10s should be sent to help Ukrainians against the Ukraine. However, it seems unlikely, as Ukraine does not control the airspace above the conflict zone. This means the A-10 would be a sitting duck in contested airspace, vulnerable to air-to-air Russian fighters like the Su-35 and MiG-31.

The A-10 has been successful in past conflicts—Desert Storm 1.0, Desert Storm 2.0, and Afghanistan—but only after the US secured the airspace above the conflict zone. The A-10 is a second-phase weapon to be used once air superiority is established.

<https://www.eurasiantimes.com/warthog-debut-in-india-u-s-tank-killer-a-10/>



Wed, 04 Sep 2024

China’s Y-9LG Electronic Warfare Aircraft Breaks Cover; Spotted During Sino-Thai Drills, Falcon Strike 2024

The Chinese People’s Liberation Army (PLA) debuted its Y-9LG electronic warfare (EW) aircraft during the recently concluded Sino-Thai military exercise, ‘Falcon Strike 2024’. The event, held at

Udon Thani Air Force Base in Thailand, provided a glimpse into one of China's latest advancements in electronic warfare capabilities.

The Y-9LG, previously seen only in limited satellite imagery, is a modified version of the Shaanxi Y-8/Y-9 series, a four-turboprop transport aircraft adapted for various special missions. This also marks the first time the Y-9LG has been deployed for an overseas exercise. The aircraft was part of a larger PLA contingent participating in the 19-day joint air force training exercise hosted by the Royal Thai Air Force (RTAF).

Other PLA aircraft involved included the KJ-500 airborne early warning and control (AEW&C) aircraft, J-10C multirole fighters, JH-7A maritime strike aircraft, and tactical helicopters. The Y-9LG is equipped with external antennas indicative of long-range jamming capabilities, making it a potent tool for electronic intelligence (ELINT) and warfare.

Its recent presence at the exercise suggests that the PLA is enhancing its ability to conduct complex electronic warfare operations far from Chinese shores.

The Y-9LG, also known under the 'High New' designation series as the Y-8GX-12, had been first identified in satellite imagery as early as late 2017. Notwithstanding this, information regarding its operational specifics was limited until the beginning of 2023, when it was confirmed to have entered service with the People's Liberation Army Air Force (PLAAF).

At the Falcon Strike exercise, the aircraft was observed with low-visibility markings and bore the serial number 30211. This identification suggests that it belongs to the People's Liberation Army Air Force (PLAAF) 20th Special Division. The PLAAF's 20th Specialized Division is part of the 58th Air Regiment stationed at Guiyang-Leizhuang within the Southern Theater Command.

This strategic unit plays a crucial role in supervising and managing vital regions, including the South China Sea, which holds considerable geopolitical significance. Beyond its role in regional monitoring, this unit is also anticipated to be a crucial asset in any major military operations targeting Taiwan.

Features Of The 'Rare' Chinese ELINT Aircraft

The distinctive Chinese ELINT aircraft is identifiable by its notable "balance beam" antenna, which is similar to those found on Saab's Erieye airborne radar and China's KJ-200 Airborne Early Warning (AEW) aircraft. This antenna, along with various specialized fairings (aircraft fairings are aerodynamic structures installed on various parts of an aircraft, such as the wings, fuselage, and landing gear; their primary purpose is to streamline the airflow around protruding components), highlights the aircraft's role in electronic warfare.

Experts believe that the Y-9LG's balance beam is designed for offensive operations. It emits electronically scanned radar beams to disrupt enemy radar systems, enabling the Y-9LG to conduct precise electronic attacks on multiple targets from long distances.

The Y-9LG's airframe includes additional electronic warfare components, such as an enlarged nosecone likely housing another EW antenna. Fairings on the sides of the rear fuselage are probably used for side-looking electronic intelligence or electronic support measures (ELINT/ESM).

Extra ESM antennas are positioned beneath the forward and rear fuselage and on top of the tailfin, allowing the Y-9LG to passively monitor radio-frequency emissions. This capability means the aircraft can function as an intelligence, surveillance, and reconnaissance (ISR) system, collecting data and geolocating radars on aircraft, ships, and ground facilities over extended ranges. Additionally, a SATCOM (Satellite Communications) antenna is mounted on the forward fuselage.

Naval defense expert Alex Luck said, “The current prevalent suggestion is a role focused on electronic warfare, notably a role as jammer platform including such use of the ‘balance beam’ style AESA (Active Electronically Scanned Array).”

He speculated that this new configuration represents an advanced AEW system with enhanced EW capabilities. He added that the design aligns with the broader trend in AESA radar development, which not only tracks and detects targets but also engages in electronic warfare to suppress them. Modern AESA radars are known for their ability to perform these dual functions, a feature that foreign air forces are also adopting. This increased focus on electronic warfare flexibility is a key requirement for new military technologies worldwide.

The Y-9LG’s features are consistent with earlier PLA developments, such as the KJ-500 (High New 10), which also possesses ELINT capabilities seen in other models like the Y-8JZ (High New 8). Certain features of the Y-9LG, particularly the large rectangular panels on the rear airframe, were first seen on the Y-9Z (High New 12). This development reflects ongoing trends in AEW and ELINT/EW advancements, according to Luck.

<https://www.eurasiantimes.com/warfare-aircraft-spotted-during-sino-thai-military-exercise/>

Science & Technology News



Press Information Bureau
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Wed, 04 Sep 2024

Scientists take a major step towards unification of classical & quantum gravity

In a step forward to unify the classical theory of gravitation and quantum mechanics researchers, through their calculations have obtained an uncertainty relation induced from the noise of gravitons—the hypothetical quantum of gravity, an elementary particle that mediates the force of gravitational interaction. While classical physics is a set of laws and equations that describe how ordinary objects behave, quantum physics describes the world of atoms and smaller objects.

Mr. Soham Sen and Prof. Sunandan Gangopadhyay of the Department of Astrophysics (IIA) and High Energy Physics at S.N. Bose National Centre for Basic Sciences, have been engaged in finding signatures of quantum gravity in terrestrial systems which would lead towards a better understanding of a complete quantum theory of gravity, a fundamental problem which is unsolved from the time of Albert Einstein.

Quantum gravity (QG) is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics. It deals with environments in which neither gravitational nor quantum effects can be ignored,[1] such as in the vicinity of black holes or similar compact astrophysical objects, such as neutron stars.

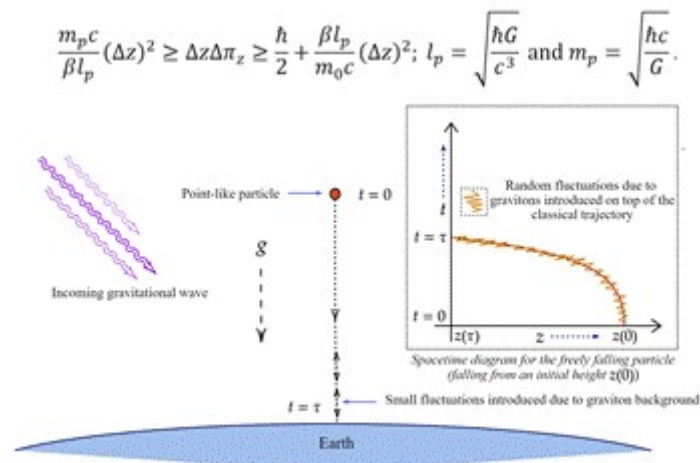
It has earlier been shown that when the gravitational field is treated quantum mechanically, it induces fluctuations, or noise, in the lengths of the arms of gravitational wave detectors like LIGO's interferometer.

The characteristics of the noise depend on the quantum state of the gravitational field. Detection of this fundamental noise would constitute direct evidence for the quantization of gravity and the existence of gravitons—the connecting link between Gravitation and Quantum theory.

Taking forward works like this, Prof. Gangopadhyay and Mr. Soham Sen have examined the fate of freely falling bodies in a quantum gravitational field. Their calculations have obtained an uncertainty relation between the position and momentum variables induced from the noise of gravitons.

The uncertainty relation indicates a true quantum gravitational effect and the calculations clearly indicate that there is true coupling of the degrees of freedom of the particle with the quantized gravitational field.

“Our derivation of the generalized uncertainty principle is robust in the sense that the result was obtained by taking into account the quantum nature of gravity”, said Prof. Sunandan Gangopadhyay.



<https://pib.gov.in/PressReleasePage.aspx?PRID=2051681>

ISRO chairman Somanath to launch cybersecurity R&D centre near airport on Thursday

ISRO Chairman S. Somanath will launch a private-sector cybersecurity R&D centre near Bengaluru international airport. The lab is being built by global forensics-driven cyber security solutions company SISA.

The project "Cyber Nalanda" is a step towards revolutionizing cybersecurity with the laying of the foundation stone for a state-of-the-art R&D center in India. "This initiative is more than just a technological investment; it's a commitment to securing the future of digital space, globally," the company said.

The Cyber Nalanda's vision is to establish India as a global hub for cybersecurity innovation, focusing on collaboration with academia, significant investment in research, and bridging the global cybersecurity skills gap, SISA founder & CEO Dharshan Shathamurthy said.

SISA will spend 10% of its annual revenues on R&D, ensuring that the solutions developed are designed in India but built to protect the world, he added. The project will also offer ANAB Accredited certification programs to equip the next generation of cybersecurity professionals, addressing the global shortage of 3.5 million unfilled jobs in the field, Shanthamurthy said.

<https://economictimes.indiatimes.com/tech/technology/isro-chairman-somanath-to-launch-cybersecurity-rd-centre-near-airport-on-thursday/articleshow/113065105.cms?from=mdr>

अमर उजाला

Thu, 05 Sep 2024

इंदौर की टेक्नोलॉजी से चांद पर जाएंगे इंसान, इसरो और कैट के बीच हुआ समझौता

इसरो ने अंतरराष्ट्रीय स्पेस स्टेशन बनाने और चांद पर मानव को भेजकर वापस लाने के लिए एक नए रॉकेट के निर्माण के लिए आरआर कैट के साथ समझौता किया है। इस समझौते के तहत, आरआर कैट इसरो को एडिटिव मैनुफैक्चरिंग आधारित टेक्नोलॉजी प्रदान करेगा, जिससे इसरो अपने रॉकेट के इंजन बना पाएगा। इस समझौते से इसरो को एक साल में 25 इंजन बनाने में मदद मिलेगी, जबकि अभी वे एक साल में केवल 3 इंजन बना पाते हैं। इससे इसरो को अपने रॉकेट को और भी तेजी से बनाने में मदद मिलेगी और वे अपने रॉकेट को और भी बेहतर बना पाएंगे।

स्पेस स्टेशन भी बना सकते हैं

इसरो के डायरेक्टर डॉ. वी. नारायणन ने बताया है कि इस न्यू जेनरेशन लॉन्च व्हीकल- सूर्या की मदद से वे 32 टन के सैटलाइट और पेलोड को अंतरिक्ष में पहुंचा सकते हैं। इससे वे अपना स्पेस स्टेशन भी बना सकते हैं और अपने रॉकेट

को एक से ज्यादा बार इस्तेमाल कर पाएंगे। आरआर कैट के इन्क्यूबेशन सेंटर पाई-हब के प्रमुख डॉ. सीपी पॉल ने बताया है कि इस पर आरआर कैट तो काम करेगा ही, साथ ही वे किसी स्टार्टअप को इस प्रोजेक्ट में शामिल करना चाहते हैं। इससे आगे चलकर इस मशीन को बड़े स्तर पर निर्मित करने में भी मदद मिलेगी।

बेहतर रॉकेट बनेंगे

सीपी पॉल ने बताया है कि इस समझौते से इसरो को अपने रॉकेट के निर्माण में मदद मिलेगी और वे अपने रॉकेट को और भी बेहतर बना पाएंगे। इससे भारत की अंतरिक्ष अनुसंधान में प्रगति होगी और वे नए क्षेत्रों में प्रवेश कर पाएंगे। इस अवसर पर, अटल इन्क्यूबेशन मिशन के डायरेक्टर चिंतन वैष्णव ने कहा कि आज देश में 1 लाख 40 हजार स्टार्टअप हैं, लेकिन इसमें से 1% से भी कम स्टार्टअप हार्डवेयर के क्षेत्र में हैं, जबकि देश की असली तरक्की हार्डवेयर स्टार्टअप से ही होगी।

<https://www.amarujala.com/madhya-pradesh/indore/indore-news-moon-men-project-rrcat-indore-isro-2024-09-05>



Thu, 05 Sep 2024

NASA discovers Earth's third energy field called 'Polar wind' after 60 years of search

Earth's third energy field known as 'Polar Wind', which only existed in theory so far, has now been discovered by Nasa after a search that has lasted 60 years.

Glyn Collinson, principal investigator of Endurance at Nasa's Goddard Space Flight Centre in Maryland, in a video released by Nasa, said that this field is fundamental to understanding the way our planet works. According to Collinson, the field has been there since the beginning alongside the other two energy fields – gravity and magnetic. The scientists said that although the field is weak, it is significant to Earth as it counters gravity and lifts the skies up.

According to the team of scientists, Polar winds have crucial answers about how Earth's atmosphere evaporates rapidly above the north and south poles. They feel that this field of energy may have played a critical role in the evolution of our atmosphere's upper-most layer.

In the 1960s, several spacecrafts that flew over the Earth's poles had witnessed a stream of particles from the atmosphere flowing into space at supersonic speeds. Scientists were aware that sunlight caused particles to leak into space. Regardless, the detected particles did not show any signs that they were heated. Collinson said that there had to be something that was drawing these particles out of the atmosphere. However, back then, the technology that was needed to detect an energy field, which can only be sensed over hundreds of miles, was not available.

How did the scientists discover the field?

The team of scientists made the discovery based on the observation from a Nasa suborbital rocket which was able to measure this planet-wide electric field. The measurements given by Nasa's Endurance Mission confirmed the existence of this ambipolar field. According to Nasa,

the observations revealed that this energy field has been driving atmospheric escape and shaping the ionosphere – a layer of the upper atmosphere.

Collinson and his collaborators have been developing sensors for launch aboard the Endurance rocket mission since 2016. The team launched the suborbital rocket flight on May 11, 2022, from Svalbard, a Norwegian archipelago. “Svalbard is the only rocket range in the world where one can fly through the polar wind and make the measurements we needed,” Suzie Imber, a space physicist at the University of Leicester, UK, and co-author of the paper, was quoted as saying by nasa.gov.

The Endurance mission revealed that hydrogen ions, which are in abundance in the polar wind, are pushed into space by an electric field that is 10.06 times stronger than gravity. The study also showed that the ambipolar field increases the ionosphere’s density by 271 per cent, essentially keeping it denser at greater heights.

According to Collinson, the field acts like a conveyor belt which lifts the atmospheric particles into space. This new discovery opens new avenues for exploration, especially how energy fields on various planets with atmospheres such as Venus and Mars have influenced the evolution of Earth’s atmosphere.

<https://indianexpress.com/article/technology/science/nasa-discovers-earths-third-energy-field-polar-wind-9549600/>



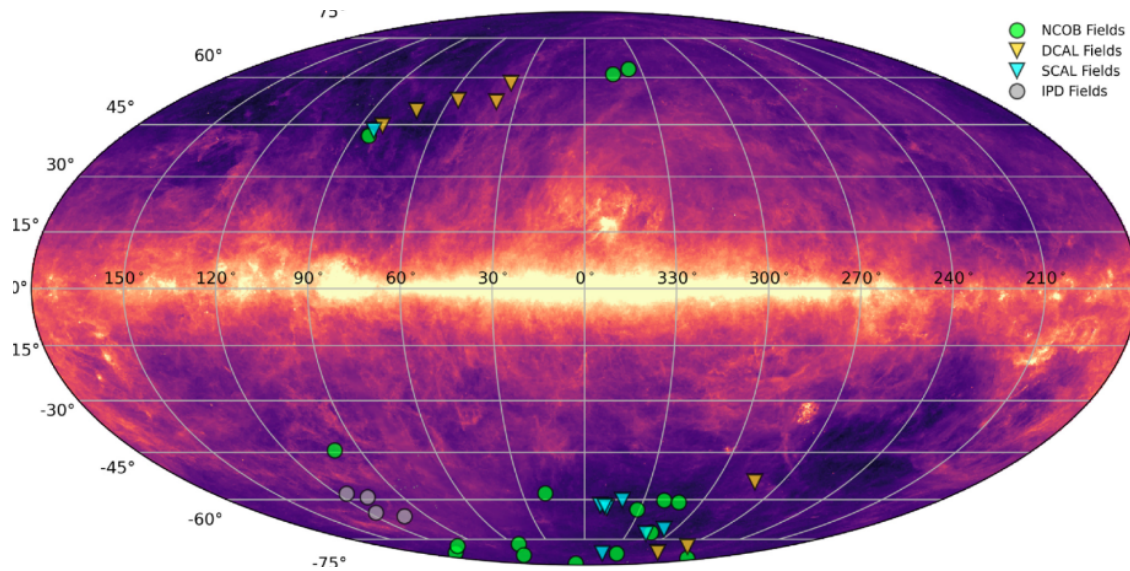
Thu, 05 Sep 2024

Scientists measure brightness of universe

Scientists have used NASA’s New Horizons spacecraft, travelling through the outer reaches of the Solar System, to capture the most precise measurement yet of the cosmic optical background, a faint glow that permeates the universe in frequencies of light visible to human eyes. While space may look black, it has a faint light because of the countless stars in trillions of galaxies that have formed and died since the Big Bang.

The research indicates that the cosmic optical background is about 100 billion times fainter than the sunlight that reaches the surface of the Earth. This light is too faint for the human eyes to perceive without aid. The findings can provide valuable insights to scientists wanting to better understand the history and evolution of the universe.

The first galaxies blossomed in an epoch known as the Cosmic Dawn, about a few hundred million years after the Big Bang. About 10 billion years ago, the rate of star formation peaked across the universe, which was then at its brightest point. The universe has been getting increasingly dark since then. Precise measurements of the cosmic optical background can help scientists validate their picture of the universe, and potentially discover any new objects that shine light.



The dots and triangles denote the locations of the measurements. This 360 degree view captures the Milky Way Galaxy. (Image Credit: Postman et al., 2024, The Astrophysical Journal).

Into the Dark

The neighbourhood of the Earth is permeated by dust and debris, which reflects the sunlight, increasing the brightness in the environment. This is why the researchers had to depend on the observations by the New Horizons spacecraft, at a distance of 8.85 billion kilometres away. The exercise is comparable to going to a remote location to get away from the light pollution of cities, to better observe stars in a dark sky.

<https://www.news9live.com/science/scientists-measure-brightness-of-universe-2682657>

