A Comprehensive Analysis of China's Air-Space Counter-Intervention Activities over South and East China Seas

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Abstract

China has been claiming vast areas of the South China Sea for a very long time. But their territorial claims have become more aggressive after President Xi Jinping assumed power in 2012. Consequently, under the leadership of President Xi, the Chinese People's Liberation Army Air Force (PLAAF) has opted for an aggressive posture in this regard and has started executing dangerous manoeuvers over the South China Sea to deny airspace navigation to foreign aircrafts and regularly having intercepts with the air-force of the QUAD member states like the USA, Australia, etc. in recent years. These kind of manoeuvres can lead to accidents and wider conflicts in the region. Therefore, this research paper will try to understand and analyse the PLAAF's evolving capabilities over the South China Sea and how it affects the overall security situation in the Western Pacific region. Critical issues like how the regional groupings, alliances and the international community stop such irresponsible Chinese PLAAF behaviour over the seas and what lessons such air-power tactics have for Indian national security in the long run are discussed. This research paper tries to decode the various aspects from these PLAAF activities in terms of the evolving PLAAF air-power tactics and its increasing confidence via such disruptions, impact on regional geopolitics, diminishing deterrence of the US and the regional actors in the South China Sea and how can the QUAD tackle this disruption in the long run.

Keywords: Air-power, PLAAF, US Air Force, South China Sea, Air-Intercepts.

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Background

The great-power rivalry between the US and China has consequences for regional security in the Indo-Pacific. One major point of conflict between these two powers is the 'Freedom of Navigation Operations' (FONOPs) and overflight operations run by the US Department of Defence (DoD). As per the DoD notification from 2017, 'the DoD challenges excessive maritime claims asserted by a wide variety of coastal states, including allies, partners, and other nations on a worldwide basis to maintain global mobility of US forces. The program employs US forces from each branch of the military services.'[2] This FONOPs program has often faced China's resistance in the Indo-pacific, more often near the South China Sea (SCS) and East China Sea (ECS) as China claims a vast majority of this maritime zone through its 'nine-dash line' definition and opposes the navigation of any foreign vessel passing through these waters without China's permission.

The above situation has also aggravated in the airspace over the SCS and ECS in the last decade with People's Liberation Army Air Force (PLAAF) assets performing dangerous and risky manoeuvers and intercepts against foreign air forces, which can lead to miscalculated accidents and conflicts. In September 2024, US Secretary of the Air Force Frank Kendall acknowledged China's growing capabilities to counter and degrade US air power projection abilities in the Western Pacific.[3] This paper critically tracks and analyses these air-space denial tactics, assesses PLAAF's increasing confidence in conducting risky air-space tactics, examines limitations of current deterrence strategies/proposals, predicts possible future contestations, impact on Quad countries and addresses critical loopholes.

Origin of PLAAF Air-Intercepts

The PLAAF risky air-intercepts over SCS can be generally studied in three phases viz. 2014-2020 intercepts, 2021-2024 intercepts and individual intercepts against the US air-force (USAF) since 2021 which were maximum. The first known violent intercept between US and Chinese military occurred on 1st April 2001 when a US Navy (USN) EP-3 signals-intelligence aircraft collided mid-air with a Chinese Navy (PLAN) J-8 interceptor fighter over SCS. The EP-3 was challenged by two J-8 interceptors and one of them collided with EP-3 while performing a series of aggressive close passes, resulting in death of J-8 pilot and subsequent emergency landing of EP-3 at Lingshui airfield in Hainan.[4] This incident occurred during George W. Bush and Jiang Zemin presidency when the US and China were not much enemical to each other and China's claims over SCS were mild. In last 23 years, things have changed drastically and the PLAAF under the leadership of president Xi-Jinping has resorted to more aggression over the SCS.

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[2] US Department of Defence. (2017, February 28). *US Department of Defense Freedom of Navigation (FON) Program*. https://policy.defense.gov/Portals/11/DoD%20FON%20Program%20Summary%2016.pdf?ver=2017-03-03-141350-380

[3] Olay, M. (2024, September 16). Threat From China Increasing, Air Force Official Says. *US Department of Defense*. https://www.defense.gov/News/News-Stories/Article/Article/3907669/threat-from-china-increasing-air-force-official-says/

[4] EP-3 Collision, Crew Detainment and Homecoming. (2001). *US Naval History and Heritage Command, AR/695*. https://www.history.navy.mil/research/archives/Collections/ncdu-det-206/2001/ep-3-collision--crew-detainment-and-homecoming.html?cq_ck=1619548656299#top

2014-2020 PLAAF Intercepts

Since Xi Jinping's rise in 2013, PLAAF intercepts and airspace blockage activities gradually increased over the SCS from 2014 onwards. Those intercepts are recorded below:

- 19th August 2014: A USN P-8 Poseidon maritime-patrol aircraft was buzzed by a J-11 fighter 135 miles east of Hainan Island. The J-11 made several passes near the P-8, coming within 20 feet distance which was termed as unsafe and unprofessional by the Pentagon. The J-11 also displayed its weapons load-out while passing at an angle of 90 degrees, pointing its belly toward the nose of the P-8.[5]
- September 2015: A USAF RC-135 Rivet Joint-surveillance aircraft was intercepted by two Xian JH-7 fighters 80 miles east of the Shandong peninsula. One of the JH-7s crossed about 500 feet in front of the nose of the RC-134. The DoD reported no indication of a 'near collision.'[6]
- 17th May 2016: USN EP-3 Aries maritime-reconnaissance aircraft got intercepted by two J-11s in international airspace east of the island of Hainan. As per sources, one J-11 came within 50 feet of the side of the EP-3 aircraft at a high rate of speed. This was termed as unsafe via initial reports.[7]
- 7th June 2016: USAF RC-135 was intercepted by two Chengdu J-10 fighters close to Chinese coast. The J-10s had an unsafe, excessive rate of closure on RC-135. The US Pacific command deemed this intercept as poor airmanship rather than intentional aggressive flying.[8]
- 17th May 2017: USAF WC-135 Constant-Phoenix aircraft, having radiation-sniffing surveillance capabilities, was intercepted by two Su-30 jets over ECS. The USAF termed the intercept as unprofessional due to the manoeuvre displayed by the Su-30 pilot and the speed and proximity between the two aircraft.[9]

2021-2024 PLAAF Intercepts

There was no major record of any risky PLAAF behaviour over SCS & ECS airspace between 2018 and 2020. After President Biden assumed power in 2020, China started to intercept aircraft belonging to countries other than the US and tried to breach the

[5] Majumdar, D. (2014, August 22). Chinese Fighter Buzzes U.S. Navy Surveillance Plane, Pentagon Upset. *US Naval Institute*. https://news.usni.org/2014/08/22/chinese-fighter-buzzes-u-s-navy-surveillance-plane-pentagon-upset

[6] LaGrone, S. (2015, September 22). Chinese Aircraft May Have Conducted an Unsafe Intercept of U.S. Surveillance Plane Last Week. *US Naval Institute*. https://news.usni.org/2015/09/22/pentagon-chinese-aircraft-conducted-an-unsafe-intercept-of-u-s-surveillance-plane-last-week

[7] Ali, I., & Rajagopalan, M. (2016, May 20). China demands end to U.S. surveillance after aircraft intercept. *Reuters*. https://www.reuters.com/article/world/china-demands-end-to-us-surveillance-after-aircraft-intercept-idUSKCN0YA2BQ/

[8] LaGrone, S. (2016, June 8). *"Improper Airmanship" by Chinese Pilot Led to Unsafe Intercept*. US Naval Institute. https://news.usni.org/2016/06/08/pentagon-poor-chinese-flying-likely-cause-unsafe-intercept-air-force-recon-plane

[9] Stewart, P., Blanchard, B., & Ruwitch, J. (2017, May 20). Chinese jets intercept U.S. radiation-sniffing plane, U.S. says. *Reuters*. https://www.reuters.com/article/world/chinese-jets-intercept-us-radiation-sniffing-plane-us-says-idUSKCN18F03X/

airspace of neighbouring ASEAN member state Malaysia. Those activities are tabulated below:

Date	Reporting Country	PLAAF actions	Country remarks	China's remarks
31st May 2021	Malaysia	Royal Malaysian Air Force (RMAF) reported that 16 PLAAF Xian Y-20 and Ilyushin Il-76 airlifters approached in a tactical formation within 60 nautical miles (69 miles) of Malaysia's eastern coast. They were flying at speeds of 290 knots and at altitudes between 23,000-27,000 feet and were likely conducting a long-range airlift surge exercise.[10]	RMAF sent Hawk light combat jets from Labuan air base and termed the incident as serious matter that threatens national security.[11]	PLAAF conducted routine training over waters to south of Nansha Islands in accordance with international law, and they didn't enter Malaysia's airspace.[12]
26th May 2022	Australia	A Royal Australian Air Force (RAAF) P-8A aircraft, while performing surveillance activity under '*Operation Gateway*' over SCS was intercepted by a J-16.[13] The J-16 released flares before passing in front of the P-8A and releasing chaff before the P-8A's flight path. Aluminium fragments of	The Australian government said that they won't be intimidated by the dangerous actions of the PLAAF and will continue its legal operations in the SCS.[15]	P-8A engaged in close-in reconnaissance and threatened China's sovereignty & security near Xisha islands. Countermeasures of PLAAF were professional, safe, reasonable and legitimate.[16]

[10] Mahadzir, D. (2021, June 1). *Chinese Air Force Fly 16 Aircraft Through Malaysian Airspace in Large-Scale Exercise*. US Naval Institute. https://news.usni.org/2021/06/01/chinese-air-force-fly-16-aircraft-through-malaysian-airspace-in-large-scale-exercise

[11] Mahadzir (2021).

[12] *Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on June 2, 2021*. (2021, June 2). Ministry of Foreign Affairs of the People's Republic of China. https://www.mfa.gov.cn/mfa_eng/xw/fyrbt/lxjzh/202405/t20240530_11347055.html

[13] Chinese interception of P-8A Poseidon on 26 May 2022. (2022, June 5). *Department of Defence, Australia*. https://www.defence.gov.au/news-events/releases/2022-06-05/chinese-interception-p-8a-poseidon-26-may-2022

[15] Morse (2022).

[16] Congyi, L. (2022, June 7). *Chinese defense spokesperson responds to Australia's hype of China-Australia military aircraft encounter*. Ministry of National Defense of the People's Republic of China. http://eng.mod.gov.cn/xb/News_213114/TopStories/4912457.html

		chaff were sucked by the engine of the P-8A.[14]		
June 2022	USA	US special operations C-130 was intercepted by a PLAAF Su-30 in an unsafe and unprofessional manner.[17]	DoD spokesperson Lt. Col. Martin Meiners declined to react on this incident while emphasizing that US will continue to fly and operate in accordance with international laws & expects others to do the same.[18]	No Comments.[19]

[14] Morse, D. (2022, June 5). Federal government says it will not be deterred by Chinese "intimidation" tactics in South China Sea. *ABC News*. https://www.abc.net.au/news/2022-06-05/australian-government-wont-be-intimidated-in-south-china-sea/101127204

[17] Seligman, L. (2022, July 14). *Chinese fighter jet had "unsafe" interaction with U.S. military plane in June*. Politico. https://www.politico.com/news/2022/07/14/chinese-jet-us-military-interaction-00045832

[18] Seligman (2022).

[19] *Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on July 15, 2022*. (2022, July 15). Ministry of Foreign Affairs of the People's Republic of China. https://www.fmprc.gov.cn/eng./xw/fyrbt/lxjzh/202405/t20240530_11347325.html

26th April to 26th May2022	Canada	A Royal Canadian air-force (RCAF) CP-140 Aurora long-range patrol-aircraft performing duties under '*Operation NEON*' was intercepted multiple times by PLAAF aircraft which was unprofessional & put the safety of crew at risk. The crew had to quickly change their flight-path to avoid a potential collision.[20]	The RCAF aircraft was harassed, and the PLAAF aircraft didn't adhere to international air safety norms.[21]	Under the pretext of enforcing UNSC resolutions, RCAF have intensified close-up reconnaissance of China & acted provocatively, endangering national security. PLAAF took reasonable, effective, safe and professional measures.[22]
21st Dec. 2022	USA	As per the US Indo-Pacific command (INDOPACOM), a J-11 performed an unsafe manoeuvre by flying in front of and within 20 feet of the nose of a USAF RC-135, forcing RC-135 to take evasive manoeuvers to avoid collision.[23]	The US Indo-Pacific Joint Force will continue to fly, sail and operate at sea and in international airspace.[24]	US frequently endangers China's national security via aerial and naval reconnaissance & China would take "necessary measures."[25]

[20] Smith, J. (2022, June 2). Canada says Chinese warplanes harassed its patrol aircraft on N. Korea sanctions mission. *Reuters*. https://www.reuters.com/business/aerospace-defense/canada-says-chinese-warplanes-harassed-its-patrol-aircraft-nkorea-sanctions-2022-06-02/

[21] Statement from the Canadian Armed Forces. (2022, June 1). *Department of National Defence, Canada*. https://www.canada.ca/en/department-national-defence/news/2022/06/statement-from-the-canadian-armed-forces.html

[22] Zhuo, C. (2022, June 6). *Defense spokesperson answers press question on Canadian military's hype of aircraft encounters.* Ministry of National Defense of the People's Republic of China. http://eng.mod.gov.cn/xb/News_213114/TopStories/4912402.html

[23] Shelbourne, M. (2022, December 30). *Chinese Navy Fighter Flew Within 20 Feet of U.S. Air Force Plane Over South China Sea*. US Naval Institute. https://news.usni.org/2022/12/30/chinese-navy-fighter-flew-within-20-feet-of-u-s-air-force-plane-over-south-china-sea

[24] Shelbourne (2022).

[25] *Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on December 30, 2022*. (2022, December 30). Ministry of Foreign Affairs of the People's Republic of China. https://www.mfa.gov.cn/eng/xw/fyrbt/lxjzh/202405/t20240530_11347438.html

26th May 2023	USA	USAF RC-135 was aggressively intercepted by a J-16, forcing RC-135 to fly through J-16's wake turbulence.[26]	The USAF expects all countries to use international airspace safely and in accordance with international laws.[27]	Frequent deployment of US aircraft to conduct close surveillance seriously harms China's sovereignty and security.[28]
16th Oct. 2023	Canada	RCAF CP-140 Aurora surveillance aircraft was intercepted by two PLAAF jets, which came within five metres. The jets were armed with air-to-air missiles and were aggressively flying in close proximity to put CP-140 into its blind spot. They also released multiple firework-like flares close to CP-140 wings and near the front of the plane, which was concerning.[29]	Canadian Defence Minister Bill Blair described the PLAAF fighters' actions as dangerous and reckless.[30]	CP-140 intruded into China's airspace in Chiwei Yu near ECS. PLAAF took reasonable, legal, and professional standard actions while maintaining Diaoyu Dao & its affiliated islands as China's territory.[31]
24th Oct. 2023	USA	A J-11 made an unsafe intercept of a USAF B-52 Stratofortress bomber at night with limited visibility over SCS by closing in with an uncontrolled excessive	The DoD stated that the incident won't change their approach to the FON operations and they will continue to fly, sail and	B-52 flew halfway around the world near China's doorstep (SCS) for military muscle flexing.[34]

[26] USINDOPACOM Statement on Unprofessional Intercept of U.S. Aircraft over South China Sea. (2023, May 30). *U.S. Indo-Pacific Command*. https://www.pacom.mil/Media/News/News-Article-View/Article/3410337/usindopacom-statement-on-unprofessional-intercept-of-us-aircraft-over-south-chi/

[27] U.S. Indo-Pacific Command (2023).

[28] *Foreign Ministry Spokesperson Mao Ning's Regular Press Conference on May 31, 2023*. (2023, May 31). Ministry of Foreign Affairs of the People's Republic of China. https://www.fmprc.gov.cn/eng./xw/fyrbt/lxjzh/202405/t20240530_11347534.html

[29] Garcha, N. (2023, October 16). Chinese military jet intercepts Canadian Forces plane in "aggressive manner." *Global News*. https://globalnews.ca/news/10027324/chinese-military-aircraft-intercept-canadian-forces/

[30] Brewster, M. (2023, October 16). Chinese fighters engaged in "unsafe" intercept of Canadian surveillance plane, commander says. *CBC News*. https://www.cbc.ca/news/politics/china-air-force-intercept-aurora-surveillance-1.6997852

[31] Xinjuan, W. (2023, October 18). *Chinese defense spokesperson refutes Canada's hype of military aircraft encounter*. Ministry of National Defense of the People's Republic of China. http://eng.mod.gov.cn/xb/News_213114/TopStories/16259850.html

[34] *Foreign Ministry Spokesperson Mao Ning's Regular Press Conference on October 27, 2023*. (2023, October 27). Ministry of Foreign Affairs of the People's Republic of China. https://www.fmprc.gov.cn/eng./xw/fyrbt/lxjzh/202405/t20240530_11347623.html

		speed, flying below, in front of, and within 10 feet of the B-52. The PLAAF pilot was assumed to be unaware of how close he was to causing a mid-air collision.[32]	operate safely and responsibly.[33]	
29th Oct. 2023	Canada	A Royal Canadian Navy (RCN) CH-148 Cyclone helicopter was buzzed by two J-11s in an unsafe manner as the helicopter experienced turbulence. The same helicopter during a second sortie on the same day was intercepted again by another J-11, which dropped flares directly in front of the helicopter, due to which the pilot had to manoeuvre to avoid flares getting ingested into the helicopter's rotor and engine intakes.[35]	The Canadian Department of National Defence (DND) deemed the incident as unsafe.[36]	China lodged their firm position on Canadian warplanes conducting reconnaissance activities near China's airspace & hoped Canada would refrain from repeating their inappropriate behaviour.[37]

[32] *Unprofessional Intercept of U.S. B-52 over South China Sea*. (2023, October 26). U.S. Indo-Pacific Command. https://www.pacom.mil/Media/News/News-Article-View/Article/3569987/unprofessional-intercept-of-us-b-52-over-south-china-sea/

[33] Press, A. (2023, October 27). US Military: Chinese Fighter Jet Came Within 10 Feet of B-52 Bomber Over South China Sea. *Voice of America*. https://www.voanews.com/a/us-military-chinese-fighter-jet-came-within-10-feet-of-b-52-bomber-over-south-china-sea/7329306.html

[35] *Statement from the Canadian Armed Forces Regarding Unsafe Intercept of Royal Canadian Air Force Helicopter*. (2023, November 3). National Defence, Government of Canada. https://www.canada.ca/en/department-national-defence/news/2023/11/statement-from-the-canadian-armed-forces-regarding-unsafe-intercept-of-royal-canadian-air-force-helicopter.html

[36] Brewster, M. (2023, November 4). Canadian military chopper buzzed by Chinese fighter jets, DND says. *CBC News*. https://www.cbc.ca/news/politics/cyclone-helicopter-jets-south-china-sea-1.7017843

[37] *Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on November 3, 2023*. (2023, November 3). Ministry of Foreign Affairs of the People's Republic of China. https://www.mfa.gov.cn/eng/xw/fyrbt/lxjzh/202405/t20240530_11347628.html

8th Aug. 2024	Philippines	Philippines air force (PAF) NC-212i light-transport turboprop plane got intercepted by two PLAAF jets which executed dangerous manoeuvers at very close distance and dropped atleast eight flares in front of PAF plane.[38]	Philippine military chief Gen. Romeo Brawner stated that incident posed a threat to PAF aircraft, interfered with lawful flight operations in airspace within Philippine's sovereignty and jurisdiction and contravened international law.[39]	Despite repeated warnings, PAF aircraft illegally intruded into the airspace of Huangyan Island. The PLAAF carried out identification, tracking, warning & expulsion in accordance with the law.[40]

PLAAF versus USAF Intercepts since fall 2021

In October 2023, Ely Ratner, then assistant secretary of defence for Indo-Pacific security affairs in DoD, declassified several footage of risky intercepts of PLAAF's coercive and risky operational behaviour against USAF since 2021, which they believed was a centralised and concerted campaign to force a change in US operational capabilities.[41] Visual analysis of those images and videos footages are tabulated below[42]:

Date of Intercept	PLAAF action	DoD footage & images analysis	Remarks
11th January, 2022	A PLAAF jet crossed in front of a USAF aircraft at a	As per the image of the USAF cockpit display, the intercept happened at an altitude of 15,883 feet, and a twin-seater & twin-engine PLAAF	USAF asset is identified as a fixed-wing turbo-fan aircraft, either a surveillance

[38] Gomez, J. (2024, August 10). Philippine military says Chinese air force jets endangered its patrol plane with flares, risky moves. *AP News*. https://apnews.com/article/philippines-china-scarborough-shoal-aircraft-patrol-cb66939c0f0698cf8eafeb9974f575ef

[39] Gomez (2024).

[40] Zhuo, C. (2024, August 10). *PLA Southern Theater Command drives away Philippine aircraft illegally intruding into China's Huangyan Dao*. China Military Online. http://eng.chinamil.com.cn/CHINA_209163/TopStories_209189/16330462.html

[41] Garamone, J. (2023, October 17). U.S. Accuses China of Conducting "Centralized, Concerted" Campaign of Harassment of Aircraft. *U.S. Department of Defense*. https://www.defense.gov/News/News-Stories/Article/Article/3560463/us-accuses-china-of-conducting-centralized-concerted-campaign-of-harassment-of/

[42] Department of Defense Releases Declassified Images, Videos of Coercive and Risky PLA Opera. (2023, October 17). *U.S. Department of Defense*. https://www.defense.gov/News/Releases/Release/Article/3559903/department-of-defense-releases-declassified-images-videos-of-coercive-and-risky/

	distance of 100 yards (300 feet), forcing the USAF aircraft to fly through the PLAAF jet's wake turbulence.	aircraft was flying at a distance of 22 feet sideways before crossing in front. The GPS coordinates as per the image Degree, Minutes, Seconds (DMS) indicator are roughly calculated as having a latitude and longitude position of 18.76ºN & 115.12º E respectively.[43] This location is calculated to be approximately 520 km away from Hainan Island.[44]	or a transport asset. It is approximately 520 km away from the Chinese mainland and outside China's Air Defence Identification Zone (ADIZ).
29th April, 2022	Four PLAAF jets conducted a risky intercept of a USAF asset continuously for a duration of five hours, reaching a minimum distance of 75 feet.	Footage 1 shows a twin-seater & twin-engine PLAAF asset armed with air-to-air missiles flying sideways to a USAF asset. Footage 2 is a heads-up display (HUDS) feed showing the interaction happening over an altitude of 25,488 feet. The latitude and longitude coordinates can be calculated roughly using DMS displayed to be around 32.71ºN & 122.62ºE. This location is calculated to be approximately 198 kms away from Shanghai. Image 1 & 2 shows the involvement of a PLAAF Chengdu J-10. Image 3 shows the release of a flare from a twin-seater PLAAF jet.	USAF asset is a turbo-propeller aircraft. The intercept happens north of SCS 198 km away from Shanghai which is well outside China's ADIZ.
24th May, 2022	A PLAAF jet intercepted a USAF asset at a distance of just 15 feet laterally and 10 feet below.	PLAAF jet is identified as a twin-seater & twin-engine Xian JH-7. It is armed with both air-to-air and air-to-ground payloads.	The USAF asset is a four-engine turbo-propeller aircraft.

[43] *GPS coordinates, Coordinates of an address*. (n.d.). Gps-Coordinates.net. https://www.gps-coordinates.net/

[44] *Distance between Coordinates.* (n.d.). Gps-Coordinates.org. https://gps-coordinates.org/distance-between-coordinates.php

8th June, 2022	Four PLAAF jets conducted a five-hour intercept of a USAF asset by coming as close as 40 feet and taking photographs.	PLAAF jet involved is a single-engine JH-7 fighter. The involvement of twin-pilot assets helps PLAAF to conduct close reconnaissance.	USAF and PLAAF assets were assumed to have flown without any drastic manoeuvers as both aircraft crews are seen to be taking photos of each other suggesting stable flight behaviour.
23rd June, 2022	A PLAAF jet approached a USAF asset at a distance of 40 feet before repeatedly flying above and below USAF aircraft and flashing its weapons. When the USAF aircraft pilot radioed the PLAAF pilot, he received an explicit language, including an expletive from the PLAAF pilot.	Footage released shows a twin-seater & twin-engine PLAAF jet armed with payloads closely following the USAF asset. The HUDS images show interception occurring at an altitude of 15,816-15,821 feet. The latitude and longitude coordinates can be assessed roughly using the displayed DMS as 18.31ºN & 112.80ºE which is approximately 321 kms away from the Hainan Island.	The USAF asset is a turbo-fan aircraft and is outside the Chinese ADIZ.

21st December, 2022	A PLAAF jet flew in front of and within 20 feet of the nose of a USAF aircraft. USAF aircraft dives downwards to avoid collision.	Footage released by the US INDOPACOM identifies the PLAAF asset as a twin-seater & twin-engine jet armed with four missiles.	The USAF asset is not recognised.
11th January, 2023	A PLAAF jet intercepted a USAF asset within a distance of 30 feet.	Footage released identifies the armed PLAAF asset as a twin-seater & twin-engine jet. There is no risky manoeuvre observed	The USAF asset is a four-engine turbo-fan aircraft.
7th February, 2023	A PLAAF jet intercepted a USAF asset by approaching at a distance of 20 feet.	Footage released identifies armed PLAAF asset as a twin-seater & twin-engine jet. There is no risky manoeuvre observed.	The USAF asset is a fixed-wing turbo-fan aircraft.
15th February, 2023	A PLAAF jet intercepted a USAF asset within a distance of 70 feet.	Footage released identifies PLAAF asset as a single-seater & twin-engine jet. There is no risky manoeuvre observed.	The USAF asset is a turbo-propeller aircraft.
2nd March, 2023	A PLAAF jet intercepted a USAF asset by approaching at a distance of 50 feet.	Footage released identifies PLAAF asset as a twin-seater & single-engine armed JH-7. There is no risky manoeuvre observed.	The USAF asset is not recognised.

25th May, 2023	A PLAAF jet flew in front of the nose of a USAF asset, forcing USAF aircraft to fly through the PLAAF jet's wake turbulence.	USINDOPACOM released footage shows twin-engine PLAAF jet flying from right direction and crossing USAF aircraft and releasing wake turbulence. USAF cockpit crew is shaken with the impact of turbulence. This can be classified as a very risky manoeuver by PLAAF. The thrust from the two engines of PLAAF jet is very strong, enough to cause turbulence which shakes USAF asset which is presumed to be larger in size and heavier in mass.	The USAF asset is a four-engine turbo-fan aircraft.
11th June, 2023	A PLAAF jet intercepted a USAF asset within a distance of 25 feet.	Footage released identifies PLAAF asset as a twin-seater & twin-engine jet. There is no risky manoeuvre observed.	The USAF asset is not recognised.
12th July, 2023	A PLAAF jet intercepted a USAF asset within a distance of 900 feet and released eight flares. This is basically a signalling manoeuvring towards the USAF asset.	Footage released identifies PLAAF asset as a twin-seater & twin-engine jet. Since the distance between the USAF and PLAAF aircraft is large, there is no impact of released flares.	The USAF asset is not recognised.

10th August, 2023	A PLAAF asset closed in with a high speed up to a distance of 50 feet beneath the wing of a USAF aircraft and then conducted a barrel roll around and below the USAF aircraft, causing the pilot to perform defensive manoeuvres to avoid a potential collision.	Image released identifies PLAAF asset as an armed twin-seater & twin-engine jet. The observed intercept is risky.	The USAF asset is a fixed-wing turbo-fan aircraft.
21st September, 2023	A PLAAF jet intercepted a USAF asset within a distance of 50 feet.	Footage released identifies armed PLAAF asset as a twin-seater & twin-engine jet. There is no risky manoeuvre observed.	The USAF asset is a fixed-wing turbo-fan aircraft.

PLAAF Intercepts Pattern Analysis

The reported information from the previous sections of PLAAF risky behaviour recorded for the period between 2014 and 2024 is visualised and analysed via below graphical representations:

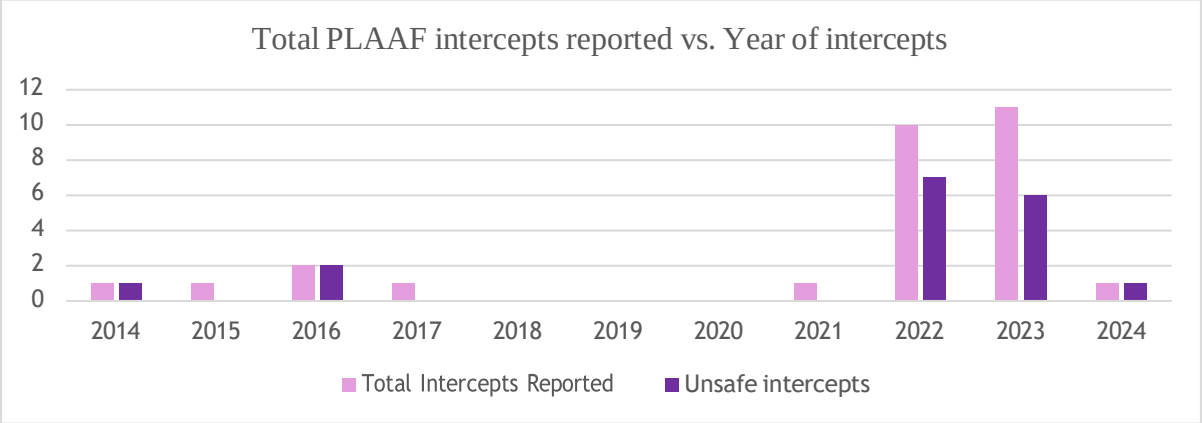


Chart 1. Source: Author

From Chart 1, it is observed that PLAAF intercepts with other air forces began slightly from 2014 and increased till 2016, but dipped from 2017-2020. President Xi Jinping assumed power in 2013, coinciding with President Barack Obama continuing his term in the US. The start of intercepts from 2014 could be considered a direct executive order by the Central political leadership to deny airspace navigation to US and allied forces. From 2013 to 2017, US President Obama's administration, in its second term, was directly challenging Chinese claims over the SCS, which wasn't the norm during President Obama's first term from 2009-2013. From 2017 to 2021, under the Trump administration, US foreign policy was more inward-looking, and the SCS was a lesser priority area, which explains the absence of any risky intercepts between 2018 and 2020, which also implies that the US reduced its FONOPs activities over the SCS. From 2021 to 2025, under the President Biden administration, FONOPs again gained priority as President Biden showed his commitment to the ASEAN allies and partners getting bullied in the SCS, which explains the spike in intercepts between 2022 and 2023. Therefore, the number of PLAAF unsafe intercepts is dependent on a specific US President's policy towards the Indo-Pacific.

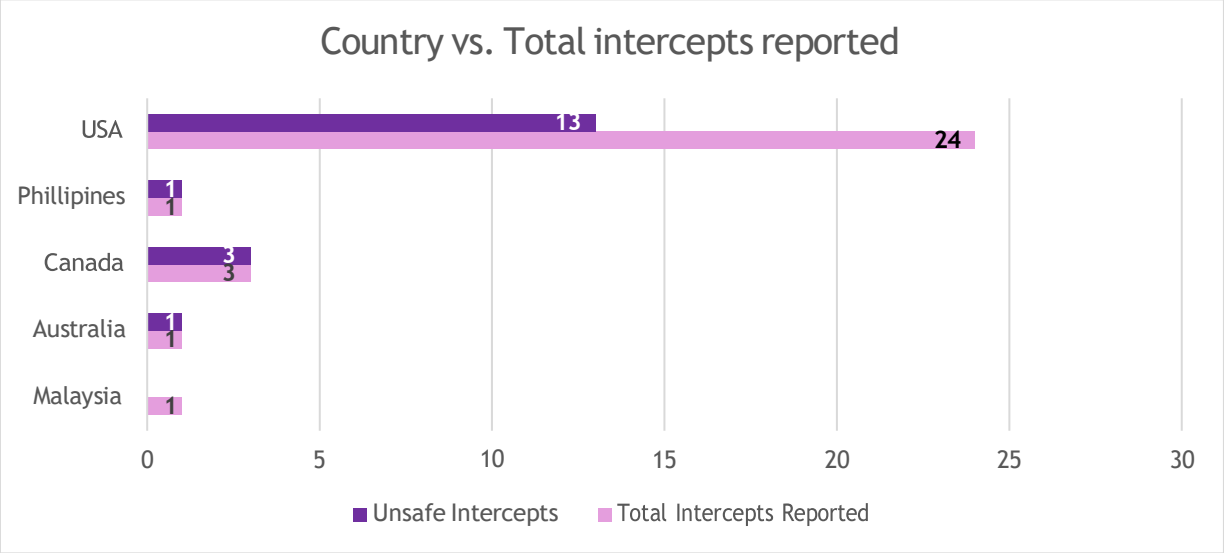


Chart 2. Source: Author

Chart 2 shows total intercepts reported by different countries in the SCS region. The US, having a strong air force, has reported maximum total and unsafe intercepts since it is the strongest competitor to China in the Indo-Pacific and has an unsafe intercept to total intercepts ratio of around 0.54. Canada, a NATO ally, reported the second-highest intercepts. Philippines and Malaysia, which have direct contestations with China over the SCS, have a weaker air force and thus face fewer air intercepts. For Canada, Philippines and Australia, important Quad members and part of five-eyes intelligence, the ratio of unsafe intercepts to total intercepts is 1.0, which indicates that PLAAF is confident in bullying those countries whose air force is weaker and which are not operating under the FONOPs program.

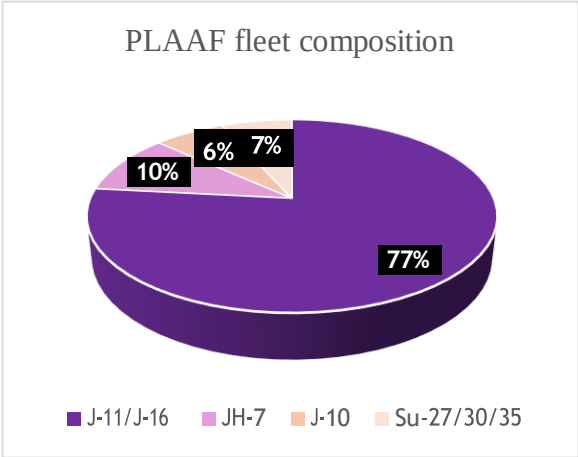


Chart 3. Source: Author

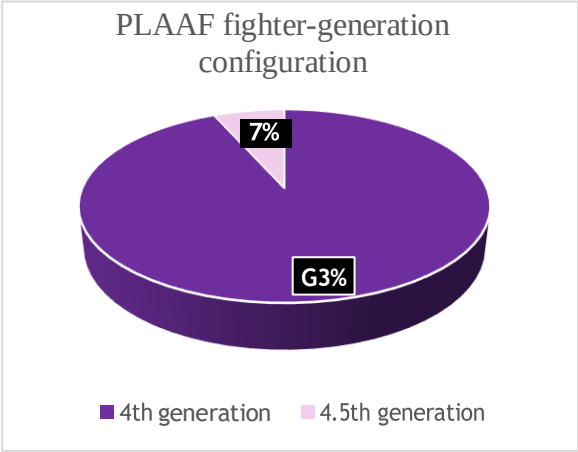


Chart 4. Source: Author

Charts 3 and 4 depict the composition and generation type of PLAAF assets deployed for conducting the air intercepts. PLAAF mostly used 4th - 4.5th generation fighter jets to intercept foreign aircraft. The deployment of J-11, J-16, JH-7, J-10, Su-30, etc. shows PLAAF's complete utilisation of inventory for challenging the intrusions, which means PLAAF attaches great importance to securing SCS airspace, barring the 5th generation assets. The 77% usage of J-11/J-16 fighters, which are manufactured by Shenyang Aircraft Corporation (SAC), implies PLAAF has a greater confidence in utilising its domestically developed fighters to challenge adversaries in within visual-range (WVR) interactions. The 93% usage of 4th generation fighters like J-11, J-10, etc., which are mostly twin-engine jets, indicates that PLAAF first wants to utilise 4th generation jets to completely gain air-superiority before deploying 4.5th or higher generation jets. This allows PLAAF to study WVR air-space denial tactics and pilot-manoeuvring abilities for further fine-tuning.

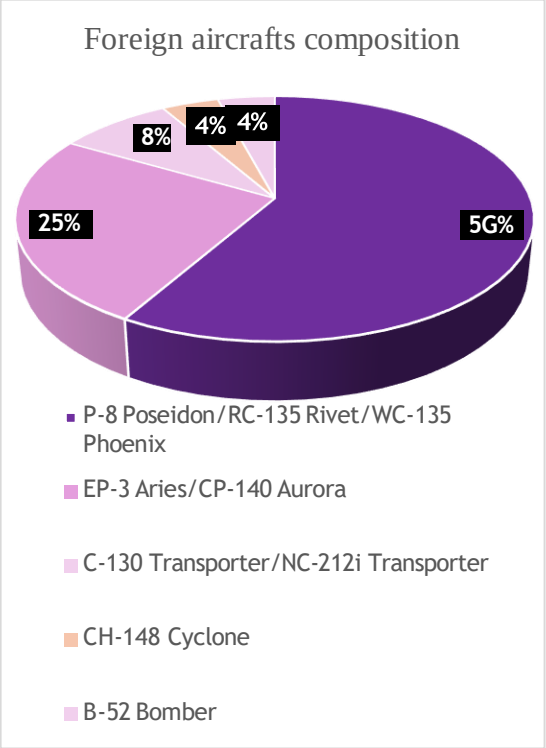


Chart 5. Source: Author

Charts 5 and 6 show composition and mission parameters of all foreign country aircrafts which flew over SCS & ECS in last decade. Nearly 59% of the aircrafts have been flown by US and Australia for advanced surveillance and reconnaissance activities which include the likes of P-8 Poseidon, RC-135 Rivet etc. Nearly 69% of missions were pertaining to surveillance purposes for which China has shown protests.

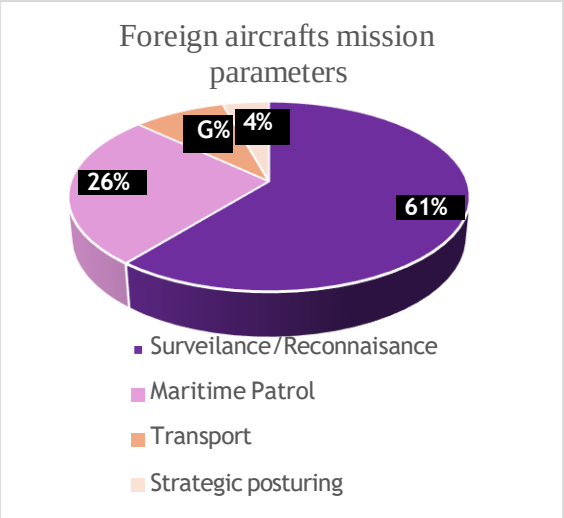


Chart 6. Source: Author

The majority of these missions were under FONOPs but China was concerned that most of these could be for spying and detection activities on Chinese militarised islands in the SCS. Around 9% of the missions were for transport purposes, which is a cause of concern for China because China won't like the use of heavy strategic transporters of the US to transport heavy military equipment to its regional adversaries like Japan, Philippines, Taiwan, etc. Maritime patrol missions are around 26% which is bound to face air-space blockage attempts as China claims entire SCS. The October 2023 night-time intercept of a USAF B-52 Stratofortress bomber was again China's attempt to nullify the strategic posturing of the US. China's air-space blockage activities are thus executed to slow down/block any chances of surveillance or maritime patrol. China now considers any kind of airspace navigation over the SCS & ECS, which falls outside its official ADIZ, as a threat to its national security, which is a new concerning paradigm shift in Chinese policy.

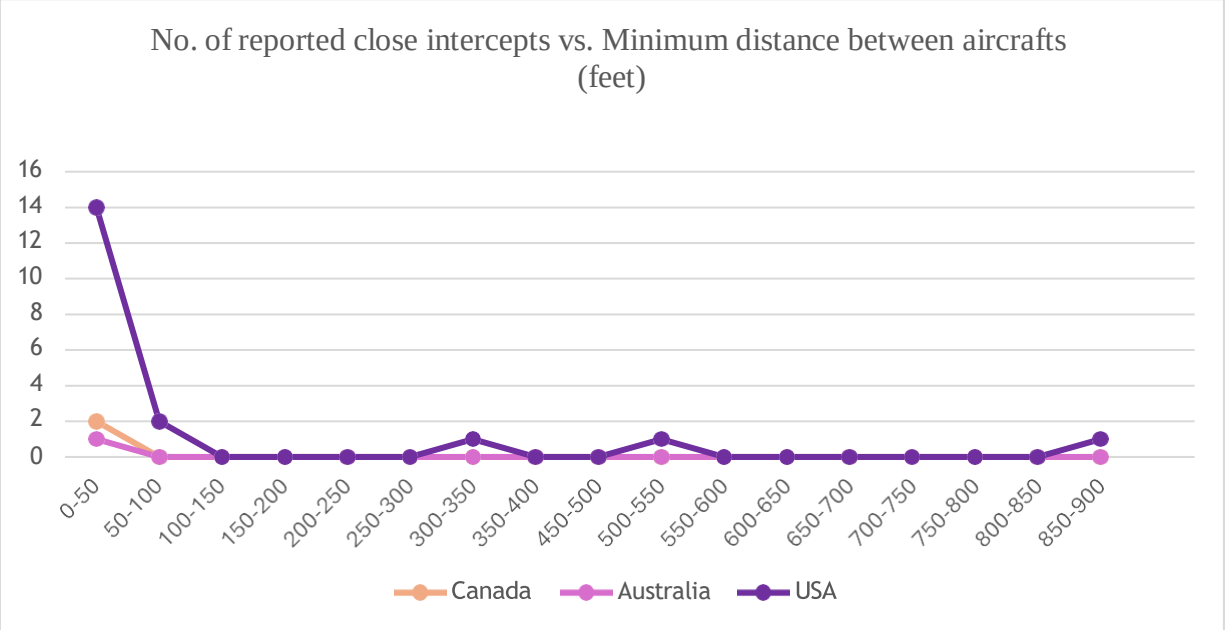


Chart 7. Source: Author

Chart 7 represents the number of unsafe intercepts against minimum distance (in feet) between PLAAF and aircraft operated from Canada, Australia and the US. Both Australia and Canada faced 3 close intercepts together, which were within 50 feet. For Australia, the minimum distance was considered unsafe and highly risky because the PLAAF asset was flying in front at a closer distance and released flares, which got ingested into the turbo-fan engine of a P-8. This could have short-circuited the engines of P-8, leading to engine failure and altitude loss. For Canada, intercepts happened within 50 feet and were unsafe, but since RCAF assets were turbo-propeller variants having a lesser speed compared to turbo-fan aircraft, there was enough time for the crew to manoeuvre and change flight path. Also, the impact of flares on a turbo-prop engine is negligible because those engines are covered, and there is less risk of any ingestion of flares damaging engines.

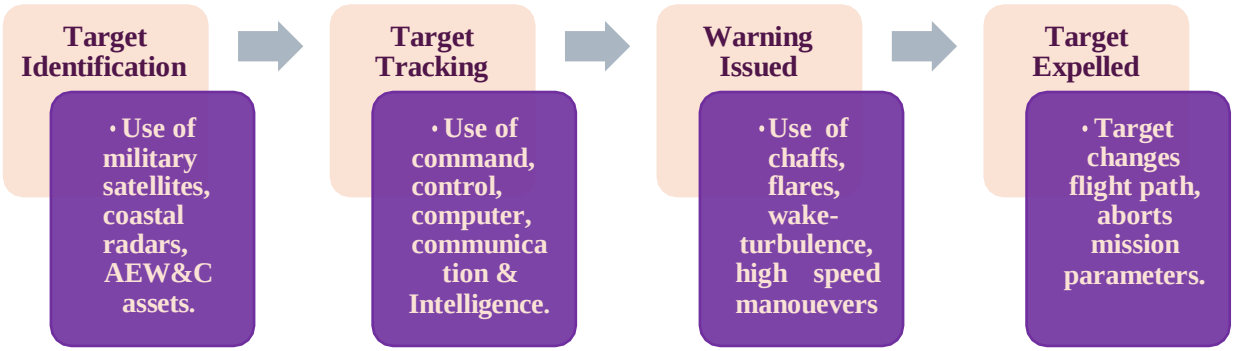
The US has faced the greatest number of intercepts within 50 feet of the PLAAF aircraft, as observed in the chart. This is because the US has conducted regular reconnaissance and surveillance missions in the SCS and ECS than any other nation. For any distance beyond 200 feet, the intercept can't be categorised as unsafe/risky because there is a minimum chance of any collision unless the adversary comes directly in front within a short time. At least on 3 occasions, USAF aircrafts had to change their flight-paths in order to avoid a potential collision, which provides the probability of a collision occurring within 50 feet as merely 23%. Similarly, on 3 counts, USAF aircrafts were trapped in wake-turbulence flowing from PLAAF assets, which disturbed their flight paths and cockpit crew. The low probability of collision within 50 feet is considered by PLAAF as a favourable condition to perform risky manoeuvres. This, along with the PLAAF pilot's superior aircraft control displayed in video footage, will be a challenge to FONOPs

PLAAF Tactics (ITWE) for Counter-Intervention

The annual China Military Power Report 2023 (CMPR-2023) released by DoD indicates that PLAAF is the largest aviation force in the Indo-Pacific region and its role has drastically transformed from territorial air-defence to "offensive and defensive operations", which is gradually eroding a significant and longstanding US military advantage in the air domain.[45] China's area-access and area-denial (A2/AD) strategy, also called counter-intervention, aims to deny the US from having a presence in China's immediate periphery and limit US access in the Indo-Pacific.[46] As observed in earlier sections, PLAAF follows a well-planned strategy of 'Identification, Tracking, Warning and Expulsion' (ITWE) of any aircraft that passes through SCS & ECS airspace to maintain effective counter-intervention. PLAAF's ITWE process is depicted below:

[45] Military and Security Developments Involving the People's Republic of China 2023. (2023). (p. 62). US Department of defence. https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF

[46] CMPR-2023, US Department of defence, p. 88



- **Identification:** China uses its constellation of military reconnaissance satellites, which provide identification of US and allied forces assets like aircraft carriers, which carry fighter fleets in the SCS/ECS conflict region. China has invested in reconnaissance, surveillance, command, control, and communications (C3) systems at strategic, operational, and tactical levels to provide high-fidelity over-the-head targeting information. China has a robust Integrated Air-Defence System (IADS) architecture extending up to 556 km from its coastal zone that relies on an extensive early-warning radar network, fighter aircrafts, and a variety of Surface-to-Air Missile (SAM) systems. China has placed radars on militarised island outposts in the SCS, further extending the range of its IADS. China has long-range air surveillance radars, including models claiming to support Ballistic-Missile Defence (BMD) and other models asserting the ability to detect stealth aircraft (not verified). PLAAF's Airborne Early-Warning and Control (AEW&C) aircrafts, such as the KJ-2000 and KJ-500, further extend China's radar coverage past the range of its ground-based radars.[47]

[47] CMPR-2023¸US Department of defence, p. 89

- **Tracking:** Successful initial identification of any flying asset as a friend/foe leads PLAAF to conduct extensive tracking. Tracking involves monitoring the entry-exit coordinates in the area of interest, complete flight-path, mission parameters, asset specifications and close-air behaviour. As per the CMPR-2023 report, the improvements of PLAAF are enabling it to operate and project power at greater distances from the Chinese mainland for longer periods.[48] These improvements could be mid-air refuelling capabilities, network-centric information systems, Command, Control, Communications, Computers, and Intelligence (C4I) structures. Chinese outposts in the SCS further extend the operating reach of PLAAF, thereby enabling them to begin instant tracking after identification.[49] The C4I modernisation helps PLAAF to collect, process and share information rapidly for improving PLAAF commanders' situational awareness for accelerated decision making.[50]
- **Warning:** PLAAF A2/AD strategy focuses on aggressive warning far away from its ADIZ. The method of warning depends on the type of target and its mission. As per the declassified footage of the DoD, if the target is a fast-moving fixed-wing turbo-fan aircraft performing maritime patrol or ISR mission, then PLAAF jets perform high rates of closure/rapid approaches to overtake the target at high speed and come directly in front of the target nose. Thus, PLAAF jets escape the wake-turbulence of the target aircraft from behind and signal their intentions to block the flight path to rival pilots. When the target is a slow-moving fixed-wing turbo-prop aircraft performing transport/patrol, then PLAAF performs maritime bow crossings, barrel rolls and acrobatics to intimidate because they are aware that for a slow-moving target, the corresponding PLAAF manoeuvers are easy to execute without any risk of collision.[51]
- **Expulsion:** PLAAF executes the expulsion of target aircrafts through a series of dangerous manoeuvers and discharging objects like chaffs and flares. The chaff and flares are especially dangerous for any turbo-fan asset, as their ingestion can lead to engine failure, which is similar to any bird-hit event of any commercial airline. The application of wake turbulence to disturb the flight path is also undertaken. The rate of successful expulsion recorded is 37% overall.

Current Proposals, Ineffective FONOPs & Limitations

Experts have termed PLAAF behaviour as grey-zone warfare and proposed policy and military tactics.

[48] CMPR-2023, US Department of defence, p. 91

[49] CMPR-2023, US Department of defence, p. 93

[50] CMPR-2023, US Department of defence, p. 94

[51] CMPR-2023, US Department of defence, p. 138

Capability to respond quickly to PLAAF actions is a vital factor, and its absence may lead to reversing it difficult as PLAAF may consider it as an 'accepted new norm'. The responses can involve using wargames of varying fidelity to measure reactions, as that allows high-quality analysis of the potential political and military risks associated with such interactions.[52] High-quality intelligence is essential, which requires intelligence resources, collection systems and skilled analysts. It's being proposed to amend international laws as PLAAF behaviour may not meet the legal standards of retaliation under the UN Article 51's right of self-defence.[53] Diplomatic involvement of regional actors to create the political manoeuvring space for timely action is an option. Selective institution-building mechanisms like military-to-military deconfliction hotlines and sharing information among allied armed forces and militaries can be utilised.[54]

The military proposals involve air-policing coordination among regional actors to prevent China from imposing an ADIZ over the SCS using quick-reaction scramble jets like the F-15 or F/A-18F paired with a KC-30A air refuelling aircraft to extend the endurance. This will provide air training opportunities to the air-policing units, and the PLAAF can decrease their operations. Crisis hot line initiatives like risk-management discussions with multilateral organisations like the Five-Power Defence Arrangement (FPDA) are thought to carry more weight than any single nation dealing with China. The idea of 'Deterrence by detection' by using surveillance drones like MQ-9B Sky Guardian and MQ-4C Triton emerged in 2020, which proposes that China could be deterred in the SCS if they knew they were under real-time constant surveillance. The drones will engage China to watch them and distract them from their usual SCS behaviour.[55] In 2020, US experts proposed a strategy of 'Targeted Denial' which would involve USN, backed by USAF, selectively countering China's aggressive maritime manoeuvers by shadowing Chinese assets. Targeted denial operations would require training, joint exercises, improved ISR, communications, and interoperability.[56]

Presently, FONOPs & above proposals/strategies have inherent limitations. FONOPs and overflight operations haven't deterred China from pursuing expansionist activities. It's due to the hesitancy of regional US allies like Japan and Australia. Japan has constitutional barriers that prevent it from taking any action in the SCS. Australia has politico-economic constraints.

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[52] Layton, P. (2021). *China's Enduring Grey-Zone Challenge* (p. 64). Air and Space Power Centre. https://airpower.airforce.gov.au/sites/default/files/2021-07/Chinas%20Enduring%20Greyzone%20Challenge_0.pdf

[53] Layton (2021). p. 65

[54] Layton (2021). p. 66

[55] Layton (2021). pp. 78-84

[56] Burgess, S. (2020). Confronting China's Maritime Expansion in the South China Sea: A Collective Action Problem. *Journal of Indo-Pacific Affairs, Air University Press*. https://www.airuniversity.af.edu/JIPA/Display/Article/2331176/confronting-chinas-maritime-expansion-in-the-south-china-sea-a-collective-actio/

Both these nations can't participate in FONOPs, thus reducing it only as a symbolic protest against expansionism in the SCS.[57] Only a few US allies have conducted activities close to the Paracels islands, and no country apart from the US has flown aircraft within 12 nautical miles of China's claimed islands in the SCS.[58] China hasn't been deterred by the deployment of even US strategic assets like B-52 bombers in the past.[59] USN assets flying low in the SCS zone sometimes get detected by PLAN destroyers, exposing their vulnerability.[60] The concept of targeted denial involving joint exercises and interoperability could face similar counteractions, as China and Russia have also started to conduct similar exercises to counter-balance Western influence and to disrupt the US and its allies.[61]

The capability to respond quickly to PLAAF actions depends on various external factors like political will, geopolitical interests, force capability, etc. A surveillance/ISR gathering asset is simply not designed to respond in real time. The use of wargames to measure reactions is constrained by the amount of resources and planning. Wargames are only effective if participating forces use simulations that depict real-world scenarios. High-quality intelligence again depends on primary assets, which face disturbances. The use of hotlines to manage crises has been ineffective as US messaging towards PLAAF actions has remained the same, while from the Chinese perspective, they are normal. [62] Diplomatic involvement of regional actors for a timely response can face issues, as the perception gap between China and regional countries in defining 'risky behaviour' is blurry.[63] The amendment of international laws is a vague idea, as the UN and other international organisations themselves face credibility issues due to a fractured mandate. The air-policing coordination is a good idea, but it has only remained on paper since 2021, as PLAAF operations increased. In reality, it cannot be implemented due to overlapping claims of regional actors over the SCS. The 'Deterrence by detection' using drones to distract the PLAAF for a long time is not effective, as China's ally, Russia, has

[57] Burgess (2020).

[58] Keary, J. (2024, October 22). *Military challenges to Beijing's South China Sea claims are increasing*. The Strategist; Australian Strategic Policy Institute. https://www.aspistrategist.org.au/military-challenges-to-beijings-south-china-sea-claims-are-increasing/

[59] Pickrell, R. (2018, October 20). B-52s impose their will over South China Sea ahead of sit-down between US, Chinese defense chiefs. *Air Force Times*. https://www.airforcetimes.com/news/your-air-force/2018/10/20/b-52s-fly-over-south-china-sea-ahead-of-sit-down-between-us-chinese-defense-chiefs/

[60] Ashish Dangwal. (2023, February 25). Hot Pursuit! Armed With 4 Air-To-Air Missiles, Chinese J-11 Fighter Intercepts US P-8 Poseidon Over South China Sea. *Eurasian Times*. https://www.eurasiantimes.com/hot-pursuit-armed-with-4-air-to-air-missiles-chinese-j-11-fighter/

[61] Williams, H., Bingen, K. A., & MacKenzie, L. (2024, July 30). Why Did China and Russia Stage a Joint Bomber Exercise near Alaska? [Interview]. In *Center for Strategic and International Studies*. https://www.csis.org/analysis/why-did-china-and-russia-stage-joint-bomber-exercise-near-alaska

[62] Eric Chan. (2023, June 14). Talking While "Gray Zone" Fighting: China Expands Its Military Coercion Tactics to an International Audience. *Global Taiwan Institute*, *8*(12). Global Taiwan Brief. https://globaltaiwan.org/2023/06/talking-while-gray-zone-fighting-china-expands-its-military-coercion-tactics-to-an-international-audience/

[63] Nouwens, M. (2024). *Middling and Muddling Through? Managing Asia- Pacific Crises* (pp. 59–66). International Institute of Strategic Studies. https://www.iiss.org/globalassets/media-library---content--migration/files/publications---free-files/aprsa-2024/aprsa24-chapter-2.pdf

shown successful tactics to down USAF MQ-9 drones near its vicinity in the Black Sea.[64]

Impact on Quad & Future Contestations

The growing PLAAF counter-intervention activities diminish the credibility of the Quad, which seeks to oppose any destabilising or unilateral actions that seek to change the status quo by force or coercion in the Indo-Pacific. [65] This can advance China's Global Security Initiative (GSI), which is a Chinese design to divert attention away from territorial and jurisdictional disputes in the SCS towards non-traditional security threats. China already has plans to turn Southeast Asia into a testing zone for China's GSI. Already, Vietnam, Indonesia, the Philippines and Thailand are looking to explore mutual cooperation under GSI.[66] Hence, if these nations feel that the Quad is unable to secure their maritime sovereignty, they can instead switch to China to secure their internal non-traditional security concerns. India can also be impacted if China attempts to replicate SCS counter-interventions someday near the LAC, Doklam tri-junction, Bhutan's border or near facilities in Hambantota, Ream base or Coco-islands, which have a sizeable Chinese military presence.

The chances of future contestations are also higher due to changes in PLAAF policies to train fighter pilots for a shorter time, which ensures adequate active personnel to deploy over vast areas.[67] The PLAAF's capabilities to dominate the electromagnetic spectrum and challenge USAF superiority are rising with the induction of Y-9LG EW platform for long-range jamming and electronic intelligence (ELINT) capabilities. The Y-9LG can disrupt enemy communications, radar, and navigation systems, and can gather intelligence from various threat emitters.[68] The CMPR-2024 report states that China could harness emerging technologies such as automation, big data, internet of things (IOT), AI, & cloud computing to improve process efficiencies, providing improved automation to create a comprehensive, real-time picture for war-fighters, which implies PLAAF could become more lethal.[69] As experts view PLAAF intercepts as deliberately designed and not accidental, the confidence of PLAAF to act aggressively, even to

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[64] Vergun, D. (2023, March 14). Russian Fighter Strikes U.S. Unmanned Aircraft. *US Department of Defense*. https://www.defense.gov/News/News-Stories/Article/Article/3329229/russian-fighter-strikes-us-unmanned-aircraft/

[65] The Wilmington Declaration Joint Statement from the Leaders of Australia, India, Japan, and the United States. (2024, September 22). *PIB Delhi*. https://pib.gov.in/PressReleasePage.aspx?PRID=2057454

[66] Freeman, C., Gill, B., & Mcfarland, A. (2024). *China's Global Security Initiative Takes Shape in Southeast and Central Asia* (pp. 10–14). United States Institute of Peace. https://www.usip.org/sites/default/files/2024-12/sr534_chinas-global-security-initiative-takes-shape-southeast-central-asia.pdf

[67] Redaccion, P. (2024, November 29). The Chinese Air Force modernizes its capabilities to shorten the preparation time for new fighter pilots. *Zona Militar*. https://www.zona-militar.com/en/2024/11/29/the-chinese-air-force-modernizes-its-capabilities-to-shorten-the-preparation-time-for-new-fighter-pilots/

[68] Honrada, G. (2024, September 2). China's electronic war plane made to dominate South China Sea. *Asia Times*. https://asiatimes.com/2024/09/chinas-electronic-war-plane-made-to-dominate-south-china-sea/

[69] *Military and Security Developments Involving the People's Republic of China 2024* (p. 94). (2024). US Department of defence. https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF

the brink of causing an accident, will increase.[70] The PLAAF could also probe regional actors' air defences and their political responses.[71] In the future declaration of ADIZ across the nine-dash line is also a possibility.[72]

Lessons Learnt, Road Ahead and Conclusion

The CMPR-2024 report mentions that the PLAAF has reduced the number of coercive and risky air intercepts compared to the last 2 years.[73] But this also implies that either the US has reduced its overall overflight operations or operations are not occurring over the 'nine-dash line' boundary, which the US won't acknowledge in reality. From discussions in the preceding sections, it's now well established that overflight tactics are a drastic failure. Future alternative tactical and strategic measures should be pondered, like:

- As noted in the PLAAF ITWE strategy for A2/AD, at the tactical level, deployment of large body aircraft like P-8, RC-135, etc. should be minimised/discontinued for a simple reason that these have a large radar cross-sectional area and are easier for radar detection and identification. Turbo-prop/fan assets are also vulnerable against adversary fighter jets' wake-turbulence, flares, chaffs, WVR challenges due to their slower velocity, and they should be accompanied by 4th- 4.5th generation jets for air-support, which the US has surprisingly not done for several years.
- The use of C-130 Transport and Stratofortress B-52 Bombers is a flawed idea as it's largely symbolic. If at all, such assets are deployed, they should fly at a higher altitude with partner jets, as these aren't usually used for ISR operations. Helicopters are a bad choice for maritime patrol and reconnaissance in the SCS due to their low flight ceilings, exposure to flares and chaffs.
- All reported air-intercepts involved slow-moving Turbo-prop/fan aircraft operating solo; therefore, nations should ponder to deploy their fast-moving assets, fighter jets at super-cruise velocity to challenge the air-superiority aspect of PLAAF jets. It would be more effective if these assets were flown in large formations to surprise PLAAF, as it has only shown risky intercepts against non-combat air assets, and they are yet to be tested in WVR interactions with combat air assets. For example, a maximum of 4 PLAAF jets harassing a USAF asset should be challenged in a reciprocal manner by deploying 5 USAF fighter jets to showcase strength. If PLAAF responds, the

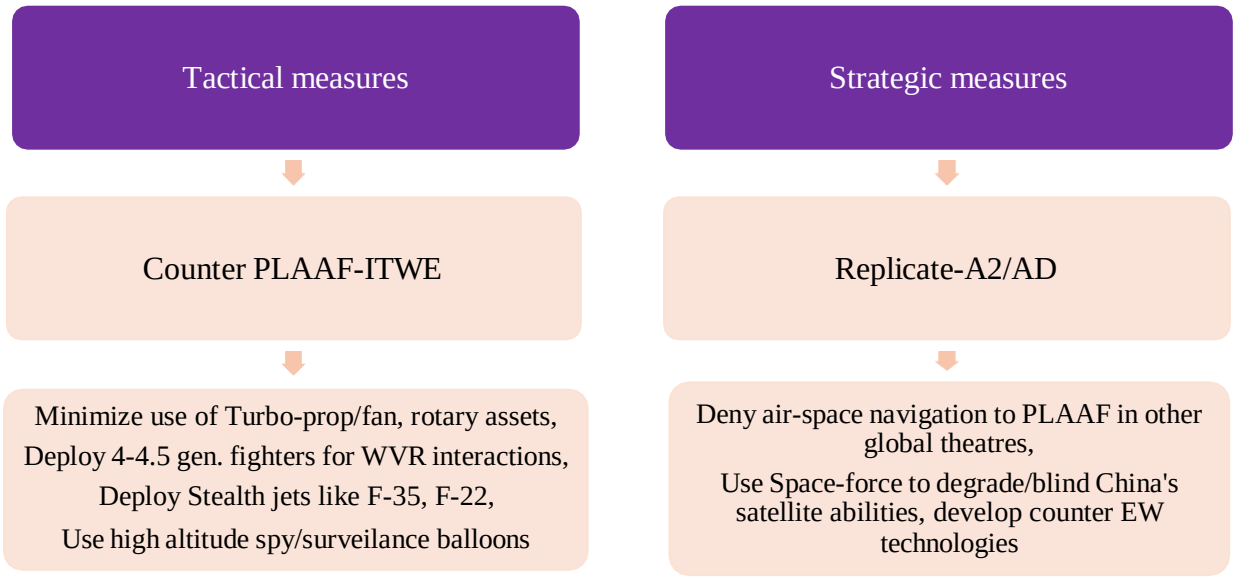
[70] Wilkins, T. (2022, July 1). *By accident or design—or designed accident? China's unsafe air intercepts*. The Strategist; Australian Strategic Policy Institute. https://www.aspistrategist.org.au/by-accident-or-design-or-designed-accident-chinas-unsafe-air-intercepts/

[71] Kok Wey Adam, L. (2021, July 15). *Airborne Assault to Occupy South China Sea Features?* The Royal United Services Institute. https://rusi.org/explore-our-research/publications/commentary/airborne-assault-occupy-south-china-sea-features

[72] Layton, P. (2022, June 6). A flare up in China's deliberate pattern of aggression. *The Interpreter, Lowy Institute*. https://www.lowyinstitute.org/the-interpreter/flare-china-s-deliberate-pattern-aggression

[73] CMPR-2024, US Department of defence, p. 135

- counter assets should be increased for every alternate interaction. It should also be experimented with and analysed whether PLAAF can cope with air stress from assets that fly at higher altitudes above 62,000 feet.



- The target identification and tracking abilities are a great advantage for the PLAAF. To diminish this ability, the use of 5th generation stealth aircraft (F-22/F-35) and bombers (B-2 Spirit & B-21 Raider) can be a major strategic move that can depress PLAAF's abilities to identify/track targets over the SCS. The US Administration's FY-2025 budget includes major investments in air power, including fifth-generation aircraft, joint all-domain C2, and therefore the US should increase the deployment of such assets, which have never been done in the past.[74]
- At a strategic level, harsh options like denying PLAAF air-space access (replicate-A2/AD) at alternate theatres like West Asia, Europe, near the Arctic, Latin America or South Asia could be a deterrent. The ISR and surveillance activities should be increased over SCS using spying/surveillance balloons which fly upwards of 80,000 feet, thereby increasing complications for the PLAAF. The US Space Force can also attempt/plan to degrade/blind the capabilities of China's military satellite constellations in future if the situation escalates.

To conclude, the failure of FONOPs/overflight and degrading US mobility/operational capabilities is encouraging China to destabilise the SCS with its risky actions. The above strategies are just sample options that could be exercised, while more strategies should be explored rather than relying on obsolete policies. But the above alternative strategies can only be fruitful if there is a concrete consensus to deter China using the political will of nations.

[74] Ratner, E. S. (2024). *Statement By Ely S. Ratner Assistant Secretary Of Defense For Indo-Pacific Security Affairs Office Of The Secretary Of Defense Before The 118th Congress House Armed Services Committee* (p. 6). US Congress. https://www.congress.gov/118/meeting/house/116960/witnesses/HHRG-118-AS00-Wstate-RatnerE-20240320.pdf

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