

# Analysis of the operational characteristics of the US Aircraft Carrier Battle Group

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## Abstract

According to the operational requirements of attacking the US Aircraft Carrier Battle Group, its defense capabilities are analyzed in this paper. Furtherly, the disadvantages of the defense capabilities are studied, and the effective means of defensive counterattack against the US Aircraft Carrier Battle Group are raised, which can be utilized to guide the operational applications of airborne weapons.



## Introduction

On October 27, 2015, the U.S. missile destroyer “Larsen” broke into the 12 nautical waters of Zhubi reef in Nansha, China and carried out “freedom of navigation”.

On November 21, 2019, the U.S. missile destroyer “Wayne Meyer” broke into the territorial waters of China’s Xisha Islands for navigation.

During the Spring Festival and novel coronavirus released in China in January 25, 2020, U.S. Navy “Montgomery” battleship still entered the adjacent waters of Nansha island in China.



## Deployment

The current standard carrier strike group mainly includes six ships: one aircraft carrier and its aviation coalition, one cruiser, two destroyers, one attack nuclear submarine and one combat support ship. The positions of each ship are shown in figure 1.



## Analysis

Alec burke class destroyer defense zone is in figure 2.

The main weapons on board the Burke destroyer includes: SM-6 interceptor, SM-2 interceptor, RIM-7 sea sparrow missile, RIM-116 ram missile and phalanx close-in weapon system. The detailed intercepting capability is shown in table 1.

The attack weapons can guarantee the security in this area, as shown in figure 3.

Figure 1

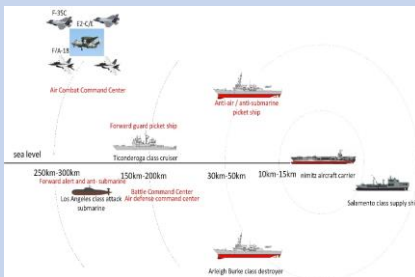


Figure 2

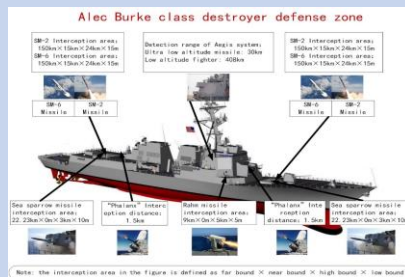


Figure 3

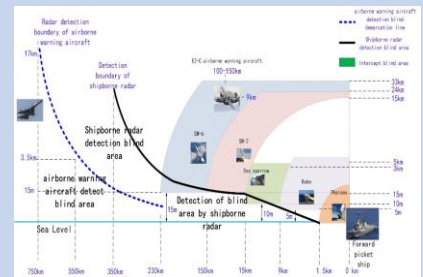


Table 1

Weapon	Range (km)	Speed (Ma)	Warhead
SM-6 missile	230	3	Mk-125
SM-2 missile	150	3	Mk-125
Sea sparrow missile	15	2.5	High energy focusing
Rahm missile	9	2.5	WDU-17B
Phalanx	1.5	4500 Per minute, initial speed 1100m/s	Shell piercing projectile

## Conclusion

This paper makes a detailed analysis of the composition, position, attacking and intercepting ability of the US Navy's carrier battle brigade, and gives suggestions on the priority of attacking targets. Based on the combat ability of the Arley Burke class destroyer, it puts forward suggestions on the weak points of the defense of the carrier battle brigade, which can provide some guidance and help for the airborne weapons to fight against the carrier battle brigade.