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THE RULES OF PREVENTING COLLISION IN OUTER SPACE

Abstract

Recently, SpaceX announced that it would send passengers to the moon in 2018. With the new round of space exploration boom, national research institutions, commercial enterprises are committed to the study of more advanced and economical spacecraft to explore and develop outer space, as a result, more spacecraft will be taken into space. Therefore, it is necessary to establish a system of traffic rules for navigation in outer space.

Although different modes of transport follow different traffic rules, however, many of these traffic rules are similar. The rules of preventing collision in outer space should also be similar to other rules of preventing collision in basic principles and measures to preventing collision. This is not only the consideration of the efficiency of making rules, but to consider the coordination of navigation in outer space and air navigation, because the navigation in outer space and air navigation are not two absolute concepts.

As a representative of a type of spacecraft designed for space travel, SpaceShipTwo, the spacecraft of Virgin Galactic, has both the characteristics of spacecraft and aircraft. This type of aircraft is similar to a seaplane, which both navigation in water and air. While a seaplane navigating in water, it follows the rules of air navigation, such as the 1972 COLREGS, while this seaplane navigating in air, it follows the rules of air navigation.

It seems to increase the burden of the pilot that demand a seaplane in different area to follow different rules of preventing collision. However, Because of the similar basic principles and measures to preventing collision in both rules of water navigation and air navigation, this worry seems to be misplaced.

This note will first address the commonality in all modes of traffic rules. Especially the basic principles and measures to preventing collision. It will list the essential principles and measures in air navigation, and study whether these principles and measures can be applied to air navigation. Then Compare some of the criteria for distinguishing navigation in outer space and air navigation, and compare the development history of the definition of 'vessel' in COLREGS, and put forward a reasonable criteria. Finally, the note will address the problems may be involved in the air traffic management while a spacecraft navigating in air.