عنوان مقاله:

The role of fuel cell air independent propulsion system in increasing Iran submarine fleet capability

محل انتشار:

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خلاصه مقاله:

Vast areas of sea and the long Iranian sea borders, strategic and sensitive geographical position of Persian Gulf, Strait of Hormoz, Oman Sea and Indian Ocean due to political, military, economical reasons as well as the existence of American military bases in neighboring countries would result in the improvement of fleet capability of pivotal navy in order to dominate these areas. It is necessary to use new technologies such as fuel cell air independent propulsion (AIP) in submarine to promote its operation capability. Fuel cell AIP can make submarine stealthy. Moreover, this technology would increase its submerged endurance in littoral water and Indian Ocean. In the current research, the role of fuel cell air independent propulsion system in Iran' submarine fleet capability was studied. One of the most crucial parameters is Indiscretion Ratio (IR) representing the proportion of snorkeling time to mission time in a submarine. An IR parameter related to AIP-fitted submarine will be approximately 1-2% in comparison to 8-10% of IR factor for a conventional diesel electric submarine. FC AIP system tends to increase the endurance of underwater submarines up to four times leading to an increase in the covered area by a submarine equipped with antisubmarine warfare (ASW) up to 16 times; therefore, the probability of detection significantly decreases by the FC AIP system in .submarine

کلمات کلیدی:

Air independent propulsion, endurance, submerged endurance, Indiscretion Ratio