

HYBRID PROPULSION SYSTEM OF SHIP AND CONTROL METHOD THEREOF

ABSTRACT

A hybrid propulsion system 10 of a ship comprises a main engine 17, a main generator 18, an electric generator 19, a memory section 15 which stores therein a permissible shifting operation mode combination which is a combination of an operation mode before shifting and an operation mode after shifting, in which the operation mode before shifting is permitted to be automatically shifted to the operation mode after shifting, and a control section 14 configured to: calculate a fuel efficiency of each of the operation modes, and obtains an operation mode with the fuel efficiency higher than that of the present operation mode, when a present thrust demand and a present electric power demand fall within a suppliable thrust range and a suppliable electric power range, respectively, the suppliable thrust range and the suppliable electric power range being set based on a change characteristic of suppliable electric power with respect to a change in a suppliable thrust, the change characteristic being defined for each of the operation modes, and automatically shift the present operation mode to the operation mode with the fuel efficiency higher than that of the present operation mode, which is selected from among operation modes after shifting, when a combination of the present operation mode and the operation mode with the fuel efficiency higher than that of the present operation mode matches the permissible shifting operation mode combination.

Fig. 1