Abstract

This thesis discusses the possible integration of Flettner rotors or Suction Wings (better known as 'Turbosails' or 'VentiFoils') on board of merchant vessels, and whether or not the installation of such systems would be beneficial to the ship owner or charterer.

In recent years, ecological regulations and a constant drive for technological efficiency on board make wind propulsion a tempting alternative for the actual ecological demands.

Both the Flettner Rotorsystem and the Suction Wing system offer significant advantages concerning fuel consumption and emissions of NO_x and CO_2, but the financial advantage of these installations is not always guaranteed. In some cases, the systems offer a long-term profitable solution, but this is highly dependent on external factors, such as weather, location of the system on board, sailing area, etc. It is therefore crucial that the ship owner analyses the risk and possible profit of such an installation beforehand, which is not always easy.